THE UNIVERSITY OF ALBERTA

# MANPOWER REQUIREMENTS IN THE FOOD SERVICE INDUSTRY WITH IMPLICATIONS FOR VOCATIONAL EDUCATION IN ALBERTA

by

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The undersigned certify that they have read, and recommend to The Faculty of Graduate Studies and Research, for acceptance, a thesis entitled "Manpower Requirements in the Food Service Industry with Implications for Vocational Education in Alberta" submitted by Hana Cerny in partial fulfilment for the requirements for the degree of Master of Education.

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# ABSTRACT

The central purpose of the study was to determine the future directions of the food/hospitality industry in the Province of Alberta and to consider the implications of the findings for educational planning.

A review of related literature established current trends in the food/hospitality industry in Canada and especially in Alberta.

A research instrument, based on the Delphi forecasting method, was designed and included a total of 29 statements. This research instrument was constructed so that the researcher could collect perceptions from two distinct groups of participants on the various aspects affecting the food/hospitality industry in Alberta.

The structure of the instrument allowed the participants to record a Degree of Desirability of the implementation of each statement as well as the Probable Time of occurrence for each statement.

The results of the study indicated that both groups involved in the research, the industry group and the educator group, foresee an acute shortage of skilled manpower for the food/hospitality industry in Alberta. This shortage will result from the influx of tourists to this province and, therefore, a tremendous growth in the construction of various eating and lodging facilities.

Technological changes will strongly affect the said industry and different training methods will have to be implemented to prepare people for employment in Alberta's dining and lodging places.

The findings of the study indicate that the participants have definite perceptions of the needs of the food/hospitality industry in Alberta and have defined specific goals to be achieved through the cooperation of both the industry and the educators. These goals are reflected in the scenarios which were developed from the study.

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# CHAPTER I

# INTRODUCTION

## Orientation to the Study

A monograph, published by the Bank of Montreal (1956), traces the history of Canada's service industry back to the nineteenth century. It reveals that in the year 1881 nearly one-half of this country's labour force was working in agriculture and only one person in five was employed in the service industry. These statistics were completely reversed seventy years later. Fuchs (1968) reported that the total employment in the service sector rose from 1,701,000 in 1941 to 2,960,000 in 1961. At that time the service and recreation sub-sector registered close to 500,000 employees with one-quarter of them being in food service. Hotel employment increased faster than employment in hotel and lodging houses combined and employment in tourist camps and motels increased more rapidly than in hotels.

In the Province of Alberta there were close to 6,000 people working as cooks, waiters and other related occupations in 1961, (Alberta Bureau of Statistics, 1968). In 1969 the number of people so employed was 11,211 (Alberta Bureau of Statistics, 1971). The latest figures (1974) released by the same agency indicate that in 1971 there were 19,610 employed in Alberta's food service industry, an increase of 227 per cent in the period of ten years. Keeping within the same framework, the number of eating places in this province increased from 2,257 in 1961 (Statistics Canada, 1969) to 50,000 in 1971 (personal interview, Alberta Department of Manpower and Labour, 1974), while the cash receipts rose from $61,490,000 to $262,357,000 during the same period of time.

The food service industry depends mainly on the older worker, married women in particular, working part-time. The Department of Labour (Canada, 1967) reports that the largest percentage of service workers in this sector is over thirty-five years of age and have only an elementary school education. Another source of food service industry workers is immigrants who often lack communication skills. These people are willing to undertake physically harder or less attractive jobs in the industry. Few of them work their way up to skilled positions; the majority of immigrants, after an initial start, leave the industry for different work.

Generally speaking, there is a serious shortage of skilled and semi-skilled manpower in the food service industry. Hundreds of positions are being created by the hotel-motel boom across Canada, with Alberta no exception. In the Manpower Requirements Survey conducted by the Alberta Department of Labour (June, 1974) the estimated job vacancy in the food service industry was close to 2,000 at the time of the survey.

With the predicted rise in school enrollments (identified later in this chapter) and the declining rate of high school drop-outs, Foodservice/Hospitality, Canada (August, 1972) in an editorial, makes inferences that the availability of men and women with little education being attracted to jobs in the food service industry is dropping fast. The same editorial says that the older workers, now employed by the industry will probably acquire training or skills which will make clerical or technical occupations more attractive than service positions.

A survey conducted by the Canadian Restaurant Association and the Hotel Association of Canada (1971) indicates that "every province has been able to record substantial growth and as a source of revenue the industry is rated as second or third in importance" (p. 17). Should the Food and Hospitality Industry continue this rate of growth it will emerge as a potent economic force in Canada. Coupled with this rate of growth for this industrial sector will be the need to prepare people to fulfill the manpower needs of the industry.

## Statement of the Problem

While many industries have been able to improve their productive capacity through the adoption of labour-saving devices, the food service and hospitality industry remains labour intensive. This industry lacks production standards and is based on the insistence of personal service to the customer, in addition to critical manpower needs in relation to educational planning.

The predicted growth of the food service and lodging industry and the expected tight labour pool for jobs that will be opening up indicate a need for more sophisticated planning techniques by those responsible for the preparation of workers for the foodservice and hospitality industry.

## Objective of the Study

The major objective of this study was to explore the potential growth of the food industry in the Province of Alberta and to consider the implications of the findings for those responsible for preparing workers for the industry.

This study had the following supporting objectives:

1. to obtain future manpower requirements in the food service industry in the Province of Alberta.
2. to obtain projections from a sample of experts on the future directions that the training of food service students in the secondary schools should take.
3. to obtain projections from the sample of experts in objective two on the future trend that the training of food service students in vocational education should take.
4. to collect, extrapolate, and present food service information which could assist educational planners and teachers alike when they assign priorities for the preparation of vocational food service personnel in the secondary schools.

## Significance of the Study

After a number of years of unlimited expansion, vocational education was made an integral part of secondary education following the passage of the Technical and Vocational Training Agreement of 1960, vocational educators are now faced with serious problems. These educators have found that: many parents prefer their children to register in the matriculation curriculum; there is a duplication and triplication of vocational education programs of studies within their school system; some of the vocational education programs of studies require equipment that is specialized and costly; and some of the students are unable to find suitable jobs in the trade for which they were prepared.

These problems draw criticism not only from the general public and graduates of vocational education curricula but also from teachers and students within the schools. Many of these critics feel that the present vocational education curricula is not adequately designed to be coordinated with manpower requirements.

In order to redesign curricula or possibly plan new ones, educational planners must have projections on what the needs of tomorrow's manpower requirements will be for any section of the economy. These projections will influence the educational facilities and they will also provide programs of studies designed to have the student develop his potential maximally.

The results of the study should provide the vocational education planners with basic data on the future growth of the food service industry and the future manpower needs of that industry.

## Assumptions

The following assumptions were forecast to the study direction and to bring it to a successful conclusion. It was assumed that:

1. Training that a student receives in a secondary school Food Preparation program in Alberta is similar to the training that is offered in the food service industry.
2. Students who successfully complete the Food Preparation program in a secondary school have developed entry level skills for employment in the food service industry.
3. Employers, owners and managers of eating places, prefer to hire individuals that have a basic knowledge of food preparation and food services.
4. Many students enrolled in the Vocational Education Food Preparation Program of studies are not satisfied with their prospects for employment in their occupational choice.
5. Present vocational education planning techniques for food preparation are not adequate for one entering the food service industry.

## Delimitations

This study had the following delimitations:

1. It was delimited to the personnel from the food service industry who were selected to participate in the study.

2. It was delimited to personnel from both the secondary and post-secondary schools who have responsibility for preparation of workers for the food service industry.
3. It was delimited to the Food Preparation program of studies offered in the secondary schools of the province that is recommended by the Department of Education.

## Limitations

This research investigation had the following limitations:

1. It was limited to the accuracy of the responses made by the participants to the research instrument.
2. It was limited to personnel of the food service industry that were employed in that industry during the time the study was conducted.
3. It was limited to the number of returns of the research instrument that were received by the researcher.
4. It was limited to the research instrument.

## Operational Definitions

The following operational definitions were selected for this study and will apply throughout the study. These definitions were selected to clarify those terms that the lay person outside education and the food service industry may not be familiar with.

Hospitality. The definition for the term "hospitality" was taken from Webster's International Dictionary (1958). According to this authoritative source, hospitality is:

> the act, practice, or quality of receiving or entertaining strangers or guests in a friendly and generous way (p. 879).

The hospitality industry involves those individuals or firms who make it their business to provide shelter, food and/or entertainment to people when they are away from home. In its broadest sense then, hospitality industry refers to a group of firms that provide services such as food, lodging or entertainment to the general public.

In Canada, the hospitality industry is a part of the Travel and Tourism industry. The Travel Industry Branch of the Federal Office of Tourism, in its publication The Canadian Tourism Facts Book (1972), identifies the following main sectors that comprise the Travel industry:

1. the accommodation sector
2. the transportation sector
3. the dining services sector
4. the outdoor recreation and resources sector
5. the events and attractions sector
6. the travel trade services sector (p. 97).

For the purpose of this study the term "hospitality industry" will include only the accommodation sector and the dining service sector from those classified by the Federal Office of Tourism.

Accommodation industry. In this industry individuals or firms provide accommodation or lodging services to the general public in hotels, motels, motor-hotels, camping grounds, trailer courts, tourist courts, tourist homes, fishing and hunting camps, and lodges.

In this study "accommodation industry" will refer to hotels and motor-hotels only, irrespective of size.

Dining services. This sector of Canada's travel industry provides an important service relating to tourism. Dining services are provided either by institutions or by public restaurants. Among the institutional foodservice establishments in Canada are:

1. airlines
2. Canadian Government (Armed Forces)
3. employee feeding
4. hospital and nursing homes
5. schools
    (a) colleges and universities
    (b) elementary and secondary

Public restaurants are classified by the Federal Office of Tourism into the following classifications:

1. hotel/motel
2. store feeding
3. restaurants
    (a) fast food
    (b) regular dining

For the purpose of this study "dining services" include secondary schools, hotels, motels and restaurants that offer fast food services or regular dining services to their patrons.

Chef. Chef or head cook is a person who coordinates the work of the kitchen staff and may take direct charge of certain kinds of food preparation. In some schools or restaurants this individual often plans the daily menu and the purchase of food supplies.

Fast food service. Fast food service operates on the principle of specialization that provides a limited number of quickly prepared items sold without table service to the patrons. This segment of the food service industry is dominated by a small number of large companies with outlets in one or more provinces. Fast food service establishments operate on the principle of centralized management or under franchise with expertise and a number of management services supplied by the franchisors for an agreed financial return.

Food preparation. In the program of studies for senior high schools of Alberta (1970) published by the Department of Education, the various career fields of vocational education are given. Included under the career field of Personal Services is Food Preparation.

Food preparation is a vocational education program of study approved by the Alberta Department of Education and is offered to Grade 10, 11 and 12 students enrolled in the secondary schools of the province.

Program of studies. Program of studies contains an outline content of the course, together with a list of the recommended text and approved secondary references (Program of Studies for Senior High Schools of Alberta, Department of Education, Edmonton, Alberta, 1970). In this study the term "program" will be used as a synonym for Program of Studies.

## Procedure of the Study

### The Delphi Technique

The Delphi Technique was pioneered by Dr. Olaf Helmer and Associates at the RAND Corporation in the early nineteen fifties. It was to serve as an alternative to the traditional round table discussions by experts and it sought to eliminate

> . . . committee activity altogether, thus further reducing the influence of certain psychological factors, such as specious persuasion, the unwillingness to abandon publicly expressed opinions, and the bandwagon effect of majority opinion (Clarke and Coutts, 1971).

The basic features of the Delphi technique are (1) annonymity of the panelists, (2) controlled feedback to the panelists of opinions generated in the rounds of mailed interaction, and (3) statistically descriptive group responses (Bushrod, 1974).

### Population and Sample

The population for the study included three distinct and discrete groups that made up Group 1. These populations included the total membership of the Canadian Restaurant Association, (Alberta Region) the total membership of the

Canadian Federation of Chefs de Cuisine, (Edmonton Chapter) and the total membership of the Hotel Association of Canada (Alberta).

From each of these populations a random sample was taken, using the procedure recommended by Ferguson (1972).

A random sample of 78 was taken from the membership of the Alberta Region of the Canadian Restaurant Association.

From the total membership of the Canadian Federation of Chefs de Cuisine, (Edmonton Chapter) a random sample of 35 was taken.

From the total membership of the Hotel Association of Canada (Alberta) a random sample of 55 was taken to participate in this study.

The second population of individuals that participated in the study were those who are responsible for teaching courses in Food Preparation and Commercial Cooking to students enrolled in these programs in the secondary schools and in the non-university post-secondary institutes in this province. This population included both the certified teachers and paraprofessionals such as certified tradesmen, cooks and chefs, employed by the various school jurisdictions and by the provincial government. This population made up Group II of the study.

Because of the limited number of people in each of these populations, the population was not randomized.

## Development of the Instrument

The instrument was comprised of three parts.

Part I contained four topical statements and was designed by the researcher from personal interviews conducted with teachers of Food Preparation and with school support staff (chefs). A sample copy of the research instrument can be found in Appendix B. Part I of the research instrument was mailed to the population sample previously identified as Group 1.

Part II was again directed to participants of Group 1 and consisted of four groups of question statements. These statements were formulated by the researcher after collating responses to Part I of the research instrument.

Part III of the research instrument was identical to Part II of the research instrument except for an additional group of statements pertaining to the field of education. Part III of the research instrument was mailed to the population sample previously identified as Group 2.

## Data Analysis

The information collected from all three parts of the instrument were collated and summarized as percentages as to the frequency of return for each group. The data are presented in tabular form in Chapter IV.

Summaries of the findings were included for each group in descending degrees of consensus, for both the time and desirability of occurrency of each item.

A description of each group was included so that points of convergence and divergence could be described. From the analyzed data, scenarios were developed fro the years 1975-1985, 1985-2000, and 2000 and later.

# CHAPTER II

# REVIEW OF RELATED LITERATURE

## Introduction

In Chapter I the purpose of the study and the major objective and supporting objectives for the research along with an overview of the methodology were presented.

This chapter will give a description of the vocational education component of industrial education. It will also present a review of the literature that is related to the study, with a heavy emphasis on the Delphi Technique of collecting research data.

## Tourism/Hospitality Services

### International Tourism

The April 25, 1973 issue of the Bank of Montreal Business Review was devoted to the topic of Tourism. This article stated that:

> In 1961 the International Union of Official Travel Organizations (IUOTO) forecasted that international tourists spent 7.3 billion dollars. . . . However, by 1971 the total expenditure of international tourists was about 20 billion dollars, yielding an annual rate of increase of 11 percent . . . If expenditures on travel within countries were added to the 20 billion dollar figure, total receipts would then be estimated at 72 billion dollars . . . by 1980 the IUOTO estimates that this figure will have doubled (pp 1, 2).

These figures are significant as Canada receives a relatively large portion of the total international tourist revenue, and in 1971 ranked fifth in total tourist earnings after the United States, Spain, Italy and France (Bank of Montreal, 1973).

Dennis Williamson, from the Federal Travel Industry Branch, Office of Tourism, reflected on the growth of international tourism in Canada over the past twenty years when he wrote the following:

> In 1948 international tourists numbered 14.5 million and total receipts from international tourists amounted to $1.4 billion. In 1970, 168 million and international tourists receipts were $17.4 billion. The volume of world tourism, as measured by the aggregate number of arrivals of tourists and the growth in world receipts from international travel totalled $1.219 billion, making it the second largest earner of export dollars, exceeded only by the sale of passenger automobiles and parts--it is estimated that the industry's receipts from foreign visitors in the period between 1970 and 1977 will double and may even reach the $14 billion mark by 1980 (Foodservice/Hospitality Canada, July, 1972, p. 16).

Tourism in Canada

Precise statistical data on the extent of internal tourism in Canada are difficult to obtain due to the fact that many of those engaged in tourist-related industries cater to local residents as well as tourists and many are sufficiently small as to avoid being required to present information to any statistical gathering body.

Although precise data are difficult to acquire, some data suggest that the Canadian tourist industry in 1972 accounted for approximately 4 per cent of the Gross National Product (GPN) or 4 billion dollars (Bank of Montreal, 1973).

In an article that appeared in the August, 1972 issue of Foodservice/Hospitality Canada, the Honourable Jean-Luc Pepin, Federal Minister of Industry, Trade and Commerce was quoted as saying: "Tourism is Canada's second largest earner of foreign exchange . . . "(p. 12). Canadians have been inclined to travel more as more leisure time has been provided in longer paid holidays. Some provinces estimate that domestic travellers make up about forty per cent of the foodservice/hospitality business. However, the largest impetus of tourists is from other countries.

The Federal Department of Industry, Trade and Commerce conducted an intensive study on the demand for and supply of accommodation facilities for the period 1970 to 1980. The results of this study were reported in the February 1973 edition of Foodservice/Hospitality Canada. According to the report:

> On the demand side, resident and non-resident accommodation needs will increase more than 60 per cent in terms of person nights. However, personal trip demand will increase close to 100 per cent with business trip demand running very close behind . . . vacation trips will . . . show a healthy 44 per cent growth during this ten-year period.

This growth in demand will put intense pressure on the supply of hotel, motel and other accommodation.

## Tourism in Alberta

In the Province of Alberta, according to the Canadian

Restaurant Association (1967), tourism, as an indicator of the growth of the food service and hospitality industry, has been expanding at the rate of 10 to 15 per cent per year. Another result of the 1967 study of the Association, shows that in a fifteen-week period between May and September of that year approximately 400,000 visitors to Alberta spent some $37,500,000. 1972 statistics by the National and Historic Parks Branch of the Department of Indian Affairs and Northern Development, the department responsible for administering the National Parks within the borders of Alberta, show that visitation in Alberta's major parks is increasing at a rate of ten to twelve per cent annually.

> In 1965, 1,617,230 Canadians and 11,218 foreign visitors passed westward through the east gate alone of Banff National Park. In 1971 the figure was 22,027,193 Canadians and 143,752 from other countries. Granted the fact many of those people were going through on the Trans-Canada Highway, there is still the case of Jasper National Park with 433,474 and 47,982 in 1965 compared to 1,211,539 and 154,056 in 1971 (Alberta Tourism Conference, Calgary, February 5, 1972).

It is evident from the above quotation that travel to both of the major National Parks in Alberta has increased with visitations to Jasper tripling over the six-year period of time. Supplementing this externally generated travel is interprovincial travel generated by residents of Alberta. As a result of these increases, new hotels, motels and restaurants are being built.

Large department stores have established cafeterias and other food services for the convenience of the shopper.

Drive-ins with their fast food services have been established by the demand of youth and families with children. Institutional feeding in hospitals has shown a rapid expansion and this growth is expected to continue. Commercial and industrial catering firms provide food services to students and workers in schools, industrial plants, transportation media, and have a large interest in home and business entertaining. Cara Operations Limited, Canada's largest airline caterer, have invested $5 million (1970) in new flight kitchens at the Toronto airport and they handle an average of 10,000 meals a day and 16,000 at peak.

Due to the number of jobs provided for Canadians either directly or indirectly by the tourist industry in Canada and the importance of the tourism and hospitality industry to the nation's coffers, the Federal government announced plans for becoming involved in the promotion of tourism as a form of trade. In the August (1974) issue of Foodservice/Hospitality Canada, the magazine reported on "The Travel Industry Development Program" that was sponsored by the Federal Government. This article stated it was the aim of the Federal Goverment to ". . . help both the provinces and private sector develop Canada's tourist plant into the best in the world" (p. 11).

It is evident from the literature reviewed that tourism is on the increase both nationally and provincially and that growth will continue. It is the concern of both the industry and the Federal Government that the facilities for tourists be of the highest quality.

## Hospitality Industry in Alberta

The hospitality industry in Alberta is experiencing the same growth and trends as evidenced elsewhere in Canada.

The amount of money left in Alberta from the tourism and the hospitality industry is on the increase and at the same time efforts are being made to improve and enlarge the industry for an even greater number of people.

According to Harold Gunderson, an official of the Calgary Tourist Bureau, "between 1966 and 1970 the number of American Visitors to the city of Calgary increased from 34 to 43.3 per cent."

In an article on tourism that appeared in the February 7, 1972 issue of the Edmonton Journal, the following statement was made: "visits to the major parks are increasing at the rate of 12 per cent annually . . . and . . . we are approaching the limit to have to start looking elsewhere" (p. 53). Alberta's minister for Tourism, Robert Dowling, in expressing future plans for tourism and parks in the province in this same issue of the Edmonton Journal was quoted as saying: ". . . campsites and recreation facilities in smaller parks might well be developed through private industry . . . by . . . developing parks in the southern, western, and Peace River parts of Alberta" (p. 15).

The director of the Alberta Government Travel Bureau, Doug Evans was quoted as saying:

> . . . a provincial government marketing study has projected that tourism should be the largest industry in Alberta by 1980 . . . total travel industry revenues should equal 1.2 billion dollars annually by 1980. To achieve this the industry must grow at eighteen per cent annually. . . . To achieve the billion-dollar annual level by 1980, we will require a 300 per cent increase in accommodation and other facilities (Edmonton Journal, December 27, 1972, p. 32).

Restaurant and Dining Services

Increased demand for restaurant services is occurring also. In the previously quoted article in the Edmonton Journal, it was reported ". . . that while prices for restaurant meals are climbing, Canadians were dining out more than ever" (p. 52). In this same article, Statistics Canada was quoted as reporting ". . . that some restaurants [in Canada] in 1972 experienced a 50 per cent increase in business over the previous year. . . . Experts say the burgeoning dining-out business results from people having more money to spend and an increasing sophisticated Canadian palate" (p. 52). Another authority on Canadian eating habits was quoted also. Howard Burns of Burns Catering Service Limited, Montreal, made the following observation: ". . . there is a change occurring in the middle class Canadian's palate from preferring the roast beef sandwich . . . to more exotic dishes when presented in glamorous surroundings" (p. 52).

## Accommodation Services

It was reported in the December 27, 1972 issue of the Edmonton Journal that Robert Dowling made the following statement with reference to the increased demands on tourist and hospitality services in the province. Mr. Dowling was quoted as saying ". . . more professionalism in such areas as food services in resort areas and hotels [is needed in Alberta]" (p. 52). Writing in the February 15, 1972 issue of Canadian Hotel and Restaurant, Jack Snowden, past manager of the Edmonton Convention Bureau stated:

> . . . better facilities would serve to attract more conventions to the province as well. . . . In Edmonton in 1971, conventions brought in over eight million dollars, an increase of over one million dollars from the previous year" (p. 31).

In this same article Mr. Snowden stressed the ever-increasing need for hospitality facilities if the tourist industry is to grow.

## Educational Implications

As the hospitality and tourist industry is growing and there is government incentive and planning for even greater growth one must examine the effect on educational facilities to prepare people to staff these industries.

Mr. Dowling believes educational programs to be the number one priority of the Department of Tourism. In the March 24, 1973 issue of the Edmonton Journal he was attributed as saying ". . . [his] department's number one priority is to establish and enlarge educational programs for training staff for hotels and motels. Expertise is what we need in the industry" (p. 70).

Individuals who hold leadership positions in either the food service industry or the accommodation industry are concerned with the following problems that face the hospitality industry:

1. A lack of qualified staff.
2. A lack of standardization of courses across Canada, and
3. A failure to upgrade chef courses and quality of cooking (Foodservice/Hospitality Canada, Vol. 6, 1973).

Many people associated with the industry maintain that changes in the education of future hospitality industry employees could change the situation. One of these individuals is Hans Bueschkens, who in 1973 was national president, Canadian Federation of Chefs de Cuisine. Writing on this issue in Foodservice/Hospitality Canada, January 1973, he stated:

> We have to have more schools of training for the members of the hospitality industry, may they be cooks, bartenders, waiters or serve in all the other aspects of the industry (p. 11).

Writing in the November 15, 1970 issue of Canadian Hotel and Restaurant, Donald T. McKeown wrote about the changes that he saw as essential for the hospitality industry. McKeown wrote: ". . . there will be an increased need for scientifically trained highly educated personnel, who can plan and experiment in managerial techniques . . ." (p. 49).

In Cooking for Profit (October, 1972) Edward J. Mayland identifies T. R. Wright, a food service educator at West Kentucky State Vocational School who expressed an anomaly that has continually plagued the food service industry--a critical manpower shortage and a high rate of unemployment.

The problem of attracting people into the food service and hospitality area is therefore a problem for the industry as well as for educators responsible for the preparation of personnel for the food service industry.

The February 1972 issue of Foodservice/Hospitality Canada includes an article by Garry Steinmeister that sets out and proposes a food service training program. In his article Steinmeister wrote the following:

> We need . . . to develop a training program which helps the individual operator to take on an employee and train him on the job as the situation arises. But, at the same time, the program must help him develop the theoretical background knowledge of the individual through courses in school.
>
> For young people entering the industry, a two-year program should be developed in which they would work five days a week earning a responsible wage and attend a trade school on the sixth day of the week (p. 12).

The academic training would relate to their practical work situation and the industry as a whole. Steinmeister maintained that the present Canadian Apprenticeship Program has not functioned well due to highly mobile youth who are not interested in tying themselves down in one location, and those persons who move readily to other jobs that present better opportunities.

In further discussing his proposal on a food service training program, Steinmeister also proposed a government retraining program that would emphasize the practical aspects at work plus the theoretical aspects of a school program. Steinmeister is of the opinion that if this procedure were followed "this would . . . help the industry fill positions with employees who improve their skills while they learn at work" (p. 12). This concept of the training program would thus enable a new employee to be of immediate help to his employer. At the same time this person could develop his potential as a skilled employee receiving theoretical knowledge in a formal classroom setting.

One of the major problems of the hospitality industry has been the failure to upgrade the chef courses, and the quality of cooking in Canada. In the February 1973 issue of Foodservice/Hospitality Canada, Hubert Scheck wrote an article with the central theme for pleading the case of upgrading the courses for chefs and the quality of cooking in this nation. Scheck believes that without this upgrading top chefs for Canada's hospitality industry will have to be imported from Europe. Because of economic conditions, this may become increasingly more difficult.

To help meet changing needs in the food service industry and to teach the use of effective manpower utilization, a three-day program has been developed by and for the members of the Ontario Region, Canadian Restaurant Association. Foodservice/Hospitality Canada (June, 1973) in reporting on this program, states: ". . . operators need further specialized training and assistance now if they are to survive . . . " (p. 22).

From the above discussion it should be evident that a well-trained employee is the basis of the food service industry. In order for the education of these to be realistic and viable the trends and future manpower needs of the industry must be carefully examined.

Prehoda (1967) takes the position that in order to institute conceptual change toward education, a cold analytical attitude must be used on this very issue. He wrote:

> We must radically change our basic concepts toward education and realize that it is a long-range investment involving our existing talent and capital. We must take the same cold analytical attitude toward this investment as we do when we buy property and securities. Education is the foundation on which depend invention, technical development, social progress, and the effectiveness of our military services (p. 98).

## Alberta's Educational Future

Economic progress and industrial expansion of Alberta depend on an efficient and effective development of human and natural resources. An imbalance between these two will inhibit growth and constitute a drastic economic and social burden.

Studies of the future conducted by the Human Resources

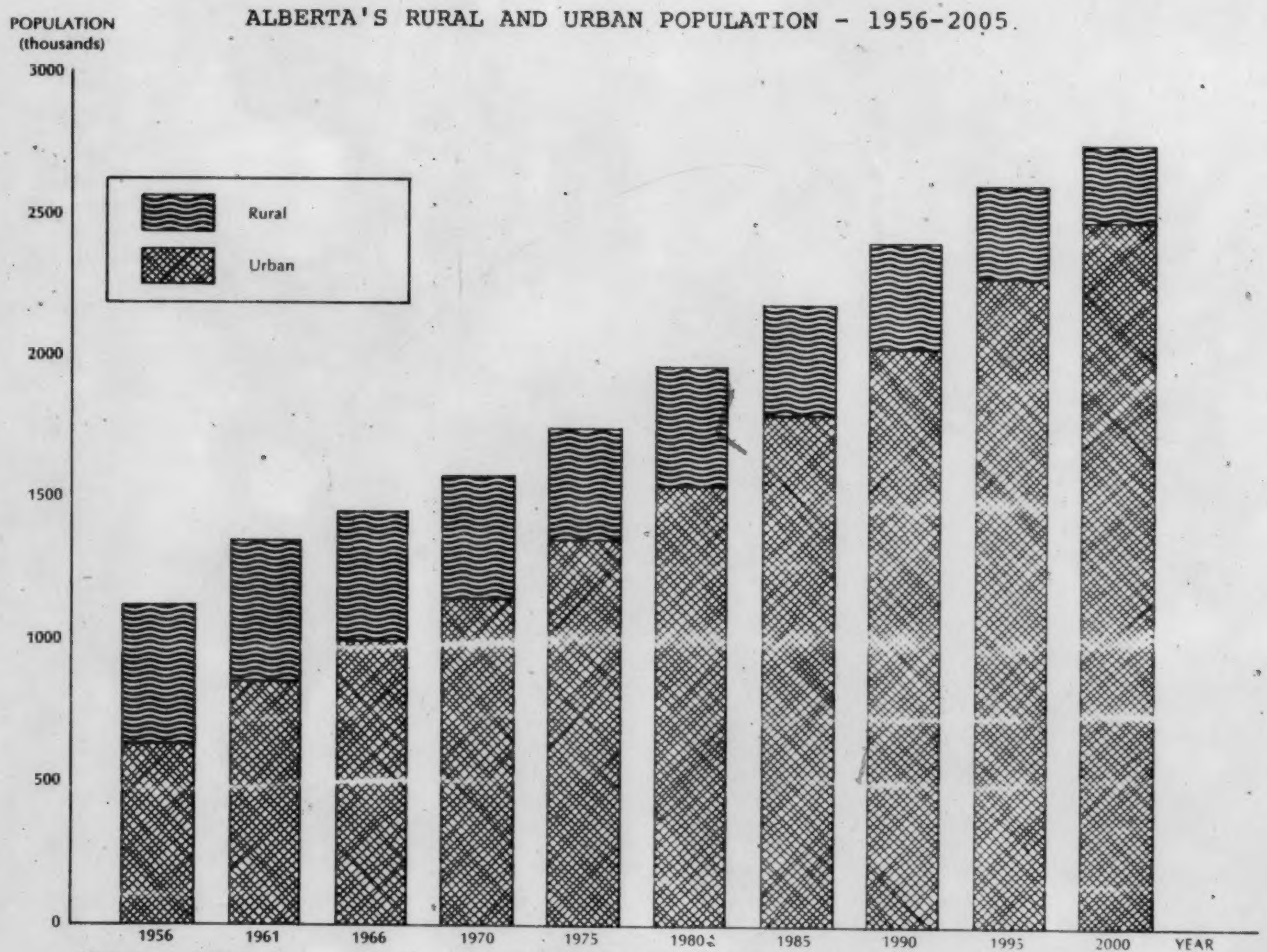
Research Council of Alberta (1971) predict that the population of this province will reach nearly two million in 1980 and 2.75 million in the centennial year 2005. Data in Table 1 show this information as well as population increases for each five-year period starting with 1956 and extending to 2000.

The increase in the total population regardless of the year will be reflected in future school enrollments. The Council anticipates that in 1980-8 nearly 63 per cent, and in 2005-06 more than 70 per cent of primary and secondary students will be enrolled in the Calgary and Edmonton regions, while the other Alberta regions will share the remaining 30-37 per cent. It is projected that the post-secondary non-university enrollment will increase at a more rapid rate. According to this same source, about 27,600 full-time students will attend vocational institutes and junior and agricultural colleges in 1980 compared with 1,599 in 1951 and 6,948 for the school year 1967-68. Data in Table 2 show these statistics. These statistics compared with those projected for the years 1970-2005 are shown in Table 3. One can see that the projected increase in the years 1980-81 will be 26.3 per cent over that of 1960-61.

Dr. Walter W. Worth, while he was chairman of the Worth Commission made the statement that predictions based on statistics are usually conservative. The Human Resources Research Council of Alberta in its publication Economic and

## TABLE 1

## ALBERTA'S RURAL AND URBAN POPULATION - 1956-2005.



SOURCE: DYCK, H.J. et al, AN OUTLINE OF THE FUTURE, P.20.

## TABLE 2

## POST-SECONDARY NON-UNIVERSITY FULL-TIME ENROLMENT, 1951 - 1968

| | 1951-52 | 1956-57 | 1957-58 | 1958-59 | 1959-60 | 1960-61 | 1961-62 |
|---|---|---|---|---|---|---|---|
| University Enrolment | 3,015 | 4,277 | 4,696 | 5,499 | 6,215 | 7,268 | 8,499 |
| Post-Secondary Non-University Enrolment | 1,599 | 1,656 | 1,971 | 2,026 | 2,267 | 2,486 | 2,729 |
| Post-Secondary Non-University Enrolment as Per cent of University Enrolment | 53.0 | 38.7 | 42.0 | 36.8 | 36.5 | 34.2 | 32.1 |
| Post-Secondary Non-University Enrolment as Per cent of 18-24 Age Group | | 1.4 | | | | | 2.2 |

| | 1962-63 | 1963-64 | 1964-65 | 1965-66 | 1966-67 | 1967-68 |
|---|---|---|---|---|---|---|
| University Enrolment | 9,837 | 11,079 | 12,977 | 14,749 | 16,983 | 19,688 |
| Post-Secondary Non-University Enrolment | 2,923 | 3,411 | 4,049 | 4,624 | 5,312 | 6,948 |
| Post-Secondary Non-University Enrolment as Per cent of University Enrolment | 29.7 | 30.8 | 31.2 | 31.4 | 31.3 | 35.3 |
| Post-Secondary Non-University Enrolment as Per cent of 18-24 Age Group | | | | | 3.5 | |

SOURCE: DYCK, H.J. et al, AN OUTLINE OF THE FUTURE, p. 62.

## TABLE 3

## PROJECTED POST-SECONDARY NON-UNIVERSITY FULL-TIME ENROLMENT, 1970 - 2005

| | 1970-71 | 1971-72 | 1972-73 | 1973-74 | 1974-75 | 1975-76 | 1976-77 | 1977-78 |
|---|---|---|---|---|---|---|---|---|
| Enrolment | 12,350 | 14,150 | 16,350 | 18,400 | 20,350 | 22,000 | 23,200 | 24,500 |
| Enrolment as Per cent of University Enrolment | 41.0 | 42.1 | 43.8 | 44.4 | 45.6 | 46.4 | 46.3 | 46.6 |
| Enrolment as Per cent of 18-24 Age Group | 6.4 | | | | | 9.2 | | |

| | 1978-79 | 1979-80 | 1980-81 | 1985-86 | 1990-91 | 1995-96 | 2000-01 | 2005-06 |
|---|---|---|---|---|---|---|---|---|
| Enrolment | 25,350 | 26,700 | 27,600 | 29,497 | 29,649 | 37,135 | 46,741 | 56,980 |
| Enrolment as Per cent of University Enrolment | 46.1 | 48.7 | 47.1 | 47.1 | 47.1 | 47.1 | 47.1 | 47.1 |
| Enrolment as Per cent of 18-24 Age Group | | | 10.1 | 11.1 | 12.1 | 13.4 | 14.6 | 16.2 |

SOURCE: DYCK, H.J. et al. AN OUTLINE OF THE FUTURE, p. 67.

Demographic Futures in Education (1971) estimates that in 1975-76 there will be 228,561 students enrolled in grades 7-12. Statistics in Table 4 indicate that there will be a decline in school enrollments for grades 7-12 for the school years 1980-81 and 1985-86. In the intervening four years between 1986 and 1990 enrollments for these school grades will increase and by the school year 2005-06 enrollments for grades 7-12 will approximate 300,000 students.

It should be noted that the majority of these statistics deal with primary and secondary school enrollments. From an extensive review of the literature, nothing was found on the projected enrollments of vocational students in the secondary schools.

On page 179 of A Choice of Futures the final report of the Worth Commission (1972) discussion "Life Experience in Basic and Higher Education" states: "Coordinators will be needed to connect schooling with the world of work . . ." The same report in discussing one of the general goals of Education Career Proficiency had this to say:

> Participating in the world of work will retain an economic necessity for most, as well as a means of satisfaction for many. But, at the same time, the nature and form of this participation will undergo continuous, if not drastic, modification for large numbers of people. Hence, the education system should encourage differing perspectives about work . . . Practically, provision should be made for occupational information, career counselling, try-out opportunities and skill development (p. 47-48).

In order to redesign the curricula or possibly plan

## TABLE 4

## ESTIMATED PRIMARY AND SECONDARY SCHOOL ENROLMENTS IN ALBERTA, 1970 - 2005

| | 1970-71 | 1975-76 | 1980-81 | 1985-86 | 1990-91 | 1995-96 | 1999-2000 | 2005-06 |
|---|---|---|---|---|---|---|---|---|
| Grades 1-6 (Ages 6-11) | | | | | | | | |
| Estimated Population | 220,742 | 196,106 | 202,604 | 238,558 | 272,974 | 291,393 | 295,487 | 309,892 |
| Estimated Participation Rates (per cent) | 104.1 | 103.4 | 102.9 | 102.4 | 102.0 | 101.5 | 101.0 | 101.0 |
| Estimated Enrolment | 229,794 | 202,774 | 208,478 | 244,284 | 278,437 | 295,764 | 298,442 | 312,990 |
| Grades 7-12 (Ages 12-17) | | | | | | | | |
| Estimated Population | 199,672 | 230,405 | 206,952 | 202,148 | 235,915 | 271,973 | 291,196 | 300,482 |
| Estimated Participation Rates (per cent) | 96.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 | 99.6 |
| Estimated Enrolment | 192,884 | 228,561 | 206,124 | 201,340 | 234,972 | 270,884 | 290,032 | 299,281 |
| Grades 1-12 (Ages 6-17) | | | | | | | | |
| Estimated Population | 420,414 | 426,511 | 409,556 | 440,706 | 508,889 | 563,366 | 586,683 | 610,374 |
| Estimated Enrolment[2] | 422,678 | 431,335 | 414,602 | 445,624 | 513,409 | 566,648 | 588,474 | 612,271 |
| Grades 1-6 as Per cent of Total Enrolment | 54.4 | 47.0 | 50.3 | 54.8 | 54.2 | 52.2 | 50.4 | 51.1 |
| Grades 7-12 as Per cent of Total Enrolment | 45.6 | 53.0 | 49.7 | 45.2 | 45.8 | 47.8 | 49.6 | 48.9 |

[2] Derived from calculations for Grades 1-6 and 7-12.

SOURCE: DYCK, H.J. et al, AN OUTLINE OF THE FUTURE, p.68.

new ones educators and educational planners must have projections of tomorrow's manpower requirements. These projections should prove useful in vocational guidance to accurately reflect manpower needs and to minimize the imbalance that exists between the demand and supply in the labour force.

## What is Technological Forecasting

As early as 1967 Prehoda attempted to provide a definition of Technological Forecasting when he wrote:

> Technological Forecasting . . . attempts to define the probable future capabilities of science and technology and to provide the information needed to guide technological development into the most efficient and fruitful parts.
>
> In the beginning it was a highly refined estimate but it is becoming increasingly accurate . . . This will be a broad discipline that studies all the problems affecting man's existence. It must analyze when, where, and how the revolutionary scientific break-through of the future may come, using realistic estimates of the probable course of scientific research (p. 18).

In the April, 1968 issue of the Futurist, Ralph C. Lenz Jr. defined Technological Forecasting in the following way: ". . . prediction of the invention, characteristics, dimensions, or performance of a machine serving some useful purpose" (p. 34).

Cetron (1969) in Technological Forecasting, A Practical Approach, maintains that technological forecasting is a ". . . prediction, with a level of confidence, of a technological achievement in a given time frame with a specific level of support" (pp 82-83).

In this book Cetron describes five discrete methods that may be used in technological forecasting: intuitive forecasts; consensus methods; analogy; trend extrapolation; and structural models.

Intuitive forecasts are:

> . . . usually obtained by "asking an expert." The assumption is that an expert in some field of technology has a broad background of knowledge and experience, which he can draw upon to forecast where his field is going (p. 34).

Martino (Futurist, October, 1968) questions the validity of intuitive forecasts because some of these forecasts are at the two extremes of the continuum. They are either very good or they are very bad.

In discussing consensus as a method of technological forecasting, Cetron writes:

> A panel of experts is used and although this method involves the use of individual intuition, it is assumed that the interaction among panel members greatly reduces the possibility of overlooking vital aspects. Some aspects of committee action can be eliminated by keeping the panelists separated, and interrogating them through a sequence of questionnaires where opinions are transferred anonymously (p. 34).

This technique of research is known as the Delphi method and will be discussed in greater detail in a subsequent section of this chapter. Research studies that have used the Delphi indicate that this method of collecting data does improve the accuracy of group forecasts.

An analogy method utilizes analogies between the thing to be forecast, and some historical event or well-known process.

The simplest most sophisticated of effective forecasting methods is trend extrapolation. "Exploring a Trend" is the way Heinlein (Prehoda, 1967) explained extrapolation.

> It means extending its present direction and continuing the shape it has displayed in past performance, i.e., if it is a sine curve in the past, you extrapolate it as a sine curve in the future, not as a hyperbola, and most certainly not as a tangent straight line (p.p. 7, 31).

The fifth method of technological forecasting according to Prehoda is structural modelling which:

> . . . involves a mathematical model of the technology-generating system, including such factors as number of workers in the field, rate at which new workers are trained, expenditures on facilities, and other related factors. At present this method is only in the experimental state (p. 36).

When this method is developed, however, it promises to be of utmost utility in the area of technological forecasting as it will permit incorporation of known or expected changes in the environment which none of the other methods can.

Henry M. Boettinger (1972) maintains that "technological forecasting enables reasonable men to select strategies which at least prevent severe harm to their enterprises and ultimately enables them to harness these forces to positive causes and purposes" (p. 103).

In the October, 1968 issue of the Futurist, Professor James R. Bright wrote that the area of technological forecasting enables others to become aware of its great potential for dealing effectively with rapid changes in industry and government (p. 101).

According to Boettinger (1972) the value of forecasting to management dovetails with education in these five areas:

1. Formal recruiting and employment programs provide personnel needed immediately by the organization and help acquire talent that must be trained and developed to fill jobs which are expected in the years ahead.
2. Manpower forecasts may suggest changes in development plans and activities which will prepare individuals for increased or at least different responsibilities in the organization. Individuals may be given special assignments and training to prepare them for positions expected to open up in the organization.
3. With manpower inventory information management may plan for the replacement of key managers.
4. Managerial succession up to five years in advance of changes thus providing valuable information for counselling and developing individuals as well as preparing qualified management talent.
5. Management can solidify its expectations about long-range manpower supply and demand (p. 36).

In his article "Designing Education for 1980" that appeared in the June, 1967 issued of the Futurist, Robert Chin of Boston University stressed the use of technological forecasting (inventing futures) as one strategy in the rational-empirical approach to effecting change in education. On this issue he wrote: "Extrapolating the future from the present is to envision the direction of the future and provide a sense of goals to the present."

In the final report of the Worth Commission (1972), "A Choice of Futures" the commission had this to say about future forecasting:

> Planning always involves some view of the future, thus, the interrelationship between educational planning and futures forecasting is reciprocal; each affects the other (p. 227).

Members of the Commission were of the opinion that the Delphi technique would ". . . contribute much to the formulation of educational and social goals where intuitive thinking . . . and consensus . . . are important" (p. 227).

Writing on the futures-perspective, the Commission had this to say in its report:

> This futures-perspective must involve every aspect of the educational system, but particularly the curriculum. The dominant characteristic of institutions for schooling must become their ability to respond to the unknown we can expect tomorrow . . . Our inability to speak of it . . . [the future] . . . with precision and certainty is no excuse for silence. Silence simply allows the future to assume a shape by inadvertence (p. 37).

## Delphi Forecasting Technique

In order to prepare for the future one must have a reasonable view of what the future holds. With that knowledge one can then proceed in a rational manner to prepare for the future. In the previous section of this chapter, methods of forecasting the future were briefly described. In this section the Delphi method of collecting research data and its use in technological forecasting will be discussed.

According to Bushrod (1974) "the name Delphi refers to Apollo's oracle in Delphi, Greece. According to Greek mytholodgy, the oracles were responsible for predicting the future" (p. 20).

The study of futurology lead to the development of the Delphi Technique by Dr. Olaf Helmer and his associates at the Rand Corporation in the early 1950's. Until the late 1960's when Dalkey wrote a definite book on this research methodology, The Delphi Method: An Experimental Study of Group Opinion. This methodology was classified as "Secret" by the Government of the United States.

The Delphi Technique is a methodology for organizing the opinions of experts about the future. Its original use was to establish a chronology of scientific and technological events and to judge when the events might occur through the speculations of several experts (Bushrod 1974, p. 21). Clarke and Coutts (1971) state that the Delphi as a research methodology eliminates

> . . . committee activity altogether, thus reducing the increase of certain psychological factors, such as specious persuasion, the unwillingness to abandon publicly expressed opinions, and the bandwagon effect of majority opinion (p. 6).

Chapter VII of Technological Forecasting is devoted to the topic of "The Delphic Methodology." In this chapter Cetron has this to say about the Delphi as a technique to predict the future:

> The usual forecast attempts to predict what can be --DELPHI tries to predict what will be. DELPHI could be described as an elegant method for developing a concensus . . . It is a polling technique employed for the systematic solicitation of expert opinion . . . DELPHI . . . is directed toward the prediction of the future as it will develop in a situation influenced by many factors beyond the control of the company or agency

> making the forecasts. Its methodology included the polling of experts representing the controlling factors and from the ensuing data develop a consensus which can be used in planning. Its advantage consists in the systematic treatment of data that includes the experts intuitive assessment of related imponderables (p. 145).

The Delphi procedure generally consists of the researcher selecting a panel of experts, asking each to make statements about the future in his area of expertise, and asking the panelists to react to these statements regarding the future. The reactions may be expressed in terms of probability of occurrence, desirability, etc. (Clarke and Coutts, p. 6).

Weaver (1971) in his article "The Delphi Forecasting Method" that appeared in the January, 1971 issue of Phi Delta Kappan concluded that . . . "The Delphi method had considerable promise as a pedagogical tool to get educators to think in more complex ways about the future" (p. 53).

According to Kurt Baier (1969) in Values and the Future . . . "the Delphi method is a systematic and rational treatment of consensus or convergence of expert opinions and can be given even greater sophistication by weighing the response of individual experts according to their previous success or prediction, according to their own sense of certainty, or some other principle" (p. 8).

## Delphi Technique--Its Positive Features

In The Future of Teacher Education, Clarke and Coutts (1971) list three positive features of the Delphi Technique in collecting research data:

1. Anonymity for the panelists during the forecasting.
2. Controlled feedback to the panelists' of opinions generated in several rounds of mailed interaction, and
3. Statistically descriptive group responses (p. 6).

Fieldman (1973) states that ". . . one of the most common ways of generating expert opinion data in futures research is the Delphi method" (p. 39).

Cetron (1969), however, maintains that the Delphi method is not a forecasting technique but a method for developing a concensus--a most useful tool in futures-forecasting: "Delphi not only uses technological forecasting, but it also incorporates a "need" orientation which tends to mask the forecast."

From the above discussion it appears that the Delphi method seems to lend itself to technological forecasting in these ways: (1) acting as a method of forecasting, and (2) acting as a check of viability of future forecasts performed by other methods. Although all authors do not agree entirely on the usability of the Delphi technique, all would assert that it is a valuable tool in the area of futures forecasting.

## Research in Education

### Using the Delphi Method

It was evident that after a thorough review of the standard indices used to report the findings of educational research that none of the Delphi studies were directed at food preparation. A few studies in education were found that used the Delphi to collect data from participants.

In 1967 at the Educational Innovations Seminar held at the University of California, Los Angeles, Helmer (1967) elicited preference judgements from a panel of experts from the various fields related to education. Helmer conducted his study to compile a list of preferred goals of education for possible federal funding from the United States Office of Education.

In 1969 at the National Conference of Professors, Ziegler conducted a Delphi study to collect opinions about prospective educational developments which, at that time, may have had an impact on educational administration, their probable dates of occurrence, the desirability of such developments should they occur, and their potential interventions.

More recently, Cyphert and Gant (1970) in the Journal of Teacher Education describe the Delphi technique to elicit preferences from the faculty of a School of Education regarding priorities in teacher education at that particular school.

At the University of Alberta, Clarke and Coutts (1971) used the Delphi technique to conduct a study on the future of teacher education in the Province of Alberta. Forty experts from the field of education were involved as participants in this study.

Hostrop (1973) cites another Delphi study in which statements were derived from 1,000 residents living in an area designated for a new university. In discussing the results of this study, Hostrop states that "Delphi provides a means whereby a spanking new institution can ascertain its course of direction in its early planning stages so as to be in consonance with the community it is to serve" (pp.76-86).

One of the most recent studies in education that used the Delphi method was the study completed by Bushrod (1974): The Role of Industrial Arts in Secondary Schools. The major purpose of this study was to identify industrial arts education's role as a vehicle for the transmission of cultural content in relation to society's changing demands (p. iv).

Only one study was found that used the Delphi technique to predict the future of the retail food industry. This study was conducted in 1970 by the Battelle Memorial Institute--Columbus Laboratories located in Columbus, Ohio. The study was devoted to forecasting social, business and technological developments of the next two decades; and analyzing the likely effect of consumer life style changes, technological developments, and changes in the physical environment of the food marketing and distribution system (news from Battelle Memorial Institute, July, 1970, p. 70).

Earlier studies conducted in 1968 by the United States Navy Supply Systems Command (NAVSUP) used an adaptation of the Delphi method to predict technical advances with emphasis on the 1968-1983 time frame. The adapted method was given the acronym SEER (System for Event Evaluation and Review) and was designed to take advantage of strong features of the Delphi method and avoid its weaknesses.

SEER, the adaptation of the Delphi method had a number of shortcomings that were identified by the experts from NAVSUP who participated in the study. Cetron (1969) identified the following shortcomings of the SEER project:

> Panel members dislike beginning with a blank piece of paper. A set of sample projections would improve the panel member's understanding of his task and stimulate patterns of thought.
>
> The extensive number of interactions required by the Delphi process results in a heavy investment of time. The panelist is prone to resent this imposition.
>
> After the several rounds, the panelist may be faced with evaluating projections in areas totally outside his area of expertise. Several former panelists indicated much indignation over being asked to play the role of "experts" and being forced to give a layman's view under the guise of expert opinion.
>
> A lack of goal orientation leaves the questions: When has information been refined enough? When do we stop the iteration process?
>
> Efforts to determine event feasibility and desirability are barely addressed.
>
> Most importantly, no effort is made to: (a) determine event interrelationships; (b) prepare "menus" of alternate short-, mid-, and long-range goals; or (c) identify the supporting events desirable and necessary to make these goals achievable.
>
> The basic design of such a technique precludes the (hopefully emphathetic) give-and-take potentially possible in face-to-face confrontation (p. 147).

## Summary

The reviewed literature reveals anticipated growth and change in the future hospitality industry of Canada and Alberta. In order to meet the changing needs of the industry, education of future personnel in the hospitality industry must keep ahead of the changes. Thus one must speculate with some degree of accuracy as to what might reasonably occur in all facets related to the hospitality industry for some time into the future.

Technological forecasting offers a number of techniques which one can use to research the possibilities of the future and determine their degree of probability. Of the methods developed to date, the Delphi technique holds a great deal of promise in the field of futures forecasting in the food service industry. It can incorporate results of any of the other methods of forecasting insofar as each member participating in the Delphi study inculcates these results into their thinking. It also includes the element of human evaluation in the form of consensus.

A number of research studies that were completed in education were reported in this chapter.

# CHAPTER III

# PROCEDURE

## Introduction

The first chapter of this report gave a brief overview of the study as well as a general outline of the methodology that was used in collecting data for the research.

The second chapter included a review of the literature that was related to this investigation and that gave support to the purpose of the study and to its research design. Included in the content of the chapter was a description of the Delphi technique, its development and its use in educational research.

This chapter will describe in detail the methodology that was used and that was briefly described in the first chapter.

## Alberta's Population Base

According to the Alberta Bureau of Statistics in 1973 the total population of the Province was 1,627,874 people. Of these, approximately one million and one-half inhabitants, two-thirds live in either metropolitan Edmonton or in metropolitan Calgary. The remaining one-third live in the cities, towns, or villages that are scattered across the province.

To serve the dining needs of these people there are a wide variety of dining facilities to fulfil the needs of these people. These facilities can be placed on a continuum according to the types and the kinds of services offered to the public. At one extreme of this continuum can be placed the fast-food service outlets like drive-in restaurants. At the opposite extreme can be placed the exquisite and exotic dining facilities that can be found in the large population centres of the province.

This diversity of eating establishments employs a work force that is equally as diverse in order to prepare food for the clients of these establishments. It is from this work force and from the teachers and instructors who prepared these workers to meet the needs of the food industry of the province that the population for this study was taken.

## Population and Sample

The population for this study represented six discrete groups which include the following:

1. Members of the Canadian Restaurant Association (Alberta Region);
2. Members of the Hotel Association of Canada (Alberta);
3. Members of the Canadian Federation of Chefs de Cuisine (Edmonton Chapter);
4. Certified teachers engaged in the instruction of Food Preparation at the senior high school level in Edmonton, Calgary and selected rural communities;

5. Instructors of Commercial Cooking in Alberta's non-university post-secondary educational institutions.
6. Certified tradesmen, cooks and chefs, employed by school boards as support staff in high schools in Alberta.

These populations were selected because of their interest in the food service field and its future in the Province of Alberta. Because of this vested interest the researcher felt that participants from these groups would be most willing to participate in all phases of the investigation.

## Sample Selection

### Canadian Restaurant Association (Alberta Region)

A complete membership list of the Canadian Restaurant Association (Alberta Region), to be known henceforth as CRA, for the year 1971 was obtained from the Managing Director of the region. (A sample copy of the letter written to obtain this list can be found in Appendix A.) At that time the CRA had eleven regions in the Province of Alberta with a total membership of 262. Because 12 of the CRA members were engaged in some form of educational endeavour, they were excluded from the sample selected from this population.

To select a sample from the CRA population, every third member was selected from Region I (Edmonton) and from Region II (Calgary) resulting in 28 and 25 names respectively. The sample from the remaining nine regions of the province was based on the number of members in each region and is reflected in Table 5. Data in this table show that for these nine regions a total of 25 members were selected to participate in the study.

TABLE 5

Number of Alberta's CRA Members Selected
to Participate in the Study

| Region No. | No of Members | Sample Selected |
|---|---|---|
| 1 | 91 | 28 |
| 2 | 79 | 25 |
| 3 | 33 | 9 |
| 4 | 17 | 4 |
| 5 | 2 | - |
| 6 | 7 | 2 |
| 7 | 19 | 5 |
| 8 | 5 | 2 |
| 9 | 3 | 1 |
| 10 | - | - |
| 11 | 6 | 2 |
| Total | 262 | 78 |

The total sample from the CRA that was selected to be involved in the study was 78.

Hotel Association of Canada (Alberta Chapter)

In 1971, according to the records of the Hotel Association of Canada (Alberta Chapter), hence to be known as HAC, there were 412 members enrolled in this Chapter.

Correspondence was initiated with the president of the HAC requesting a list of members of the Association in the province. (A sample copy of the letter written can be found in Appendix A.) This list was readily supplied. One of the shortcomings of the list was that it did not include the size of the individual business or the kind of food service available. The list that was received by the researcher was alphabetized.

Names on the list were stratified accordingly to the two major population centers and rural areas. There was a total of 79 members in Edmonton and Calgary and 271 members in the rural areas of the province. From Edmonton and Calgary, every second name was taken. This procedure yielded 19 names from Edmonton and 18 names from Calgary.

The remaining 271 names on the membership list were stratified according to geographical location with Alberta Highway No. 2 serving as the East-West dividing line and the location of the City of Red Deer as the North-South dividing line for the province (See Figure 1).

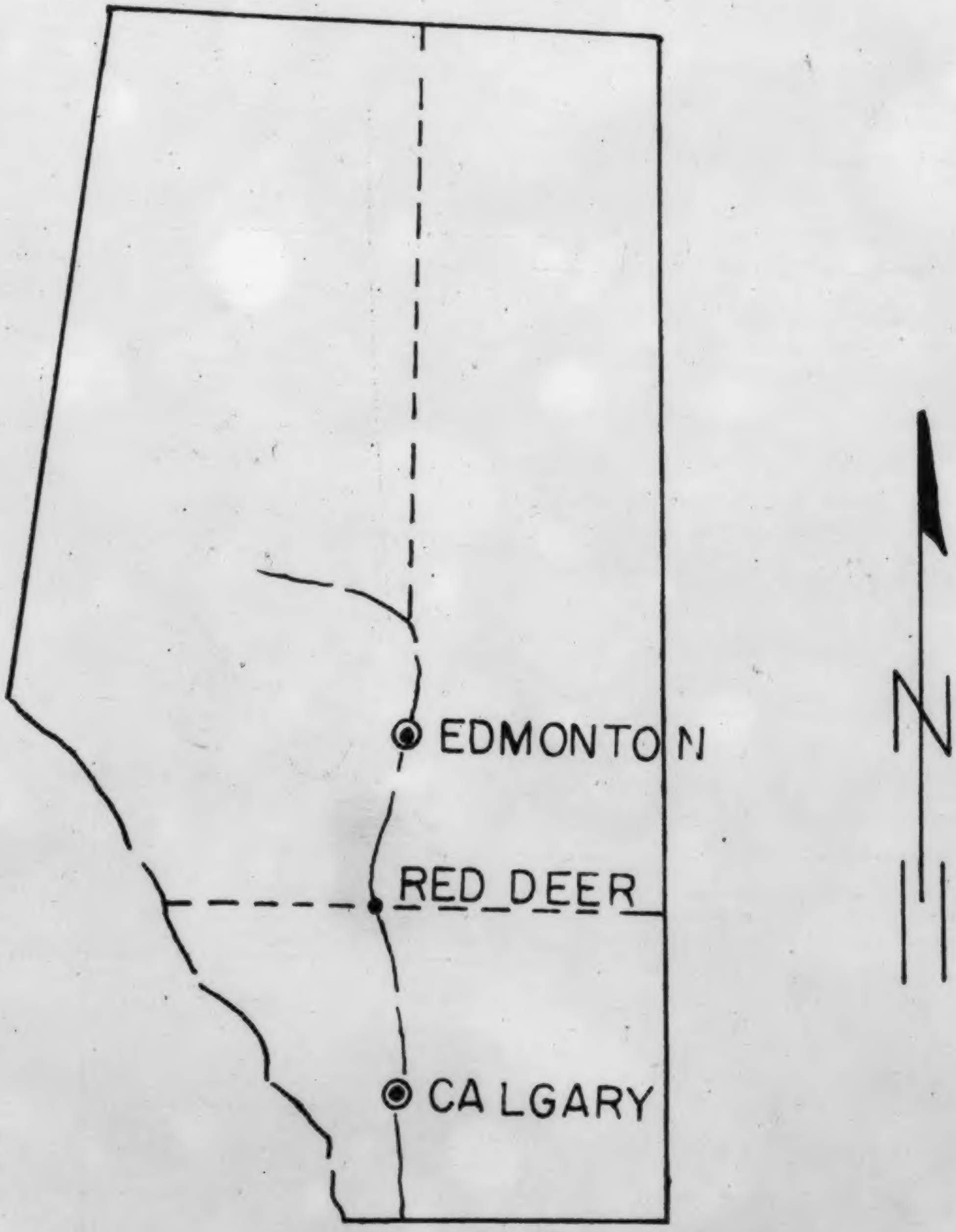
This procedure divided the province, with the exception of the two major cities, into quadrants. From all four quadrants, a total of 18 names were selected to be involved in the study. The total sample from HAC was 55.

## Canadian Federation of Chefs de Cuisine (Edmonton Chapter)

The president of the Canadian Federation of Chefs de Cuisine provided the researcher with the names of 42 members from the Edmonton Chapter. Included in this list

FIGURE 1

QUADRANTS FOR SELECTING HAC RANDOM POPULATION SAMPLES



were the names of seven teachers used in the population sample for the Food Preparation teachers (described below). Therefore, the total sample for the purpose of the study of the Edmonton Chapter of the Canadian Federation of Chefs de Cuisine was 35.

## Food Preparation Teachers

There are 15 public and separate secondary schools in the Province of Alberta that offer a program of studies in Food Preparation to students in grades ten, eleven, and twelve (Department of Education, Province of Alberta, 1974). Twenty-six teachers are employed by these various school jurisdictions as teachers of Food Preparation.

Some of these teachers were either Home Economics specialists or vocational education teachers who were journeyman cooks and/or bakers and were certified under the Alberta Apprenticeship Act. The latter group of teachers have completed a minimum of three years of teacher education at the University of Alberta in the Faculty of Education, Department of Industrial and Vocational Education and have a minimum of five years of trade working experience as cooks or bakers.

Permission to contact teachers within secondary schools was obtained from the following School Boards: Edmonton Public, Edmonton Separate and Calgary Public. A copy of the letter requesting this permission can be found in Appendix A. Food Preparation teachers from Medicine Hat, St. Paul and Sherwood Park were also contacted.

Among this population were the 12 members of the CRA and the 7 members of the Federation of Chefs de Cuisine that were excluded from the sample selected from both of these populations, but were included in part of the population for the Food Preparation teachers.

Staff of the Calgary Separate School Board was not asked to participate in the study because Food Preparation instruction is not offered in this school system. Because of the relatively small number of educators in the area of food services, the entire population of these teachers was used in the study.

| | |
|---|---|
| Edmonton Public School Board | 12 |
| Edmonton Separate School Board | 3 |
| Calgary Public School Board | 6 |
| Rural Secondary Schools | 3 |
| Total | 24 |

## Commercial Cooking Instructors

Commercial Cooking is a two-year program of studies which is taught in Alberta's two post-secondary non-university institutions. This program of studies is offered at both the Northern Alberta Institute of Technology (NAIT) and the Southern Alberta Institute of Technology (SAIT). Instructors at these institutions, both male and female, are qualified journeymen in the trades of cooking and/or baking according to the regulations of the Apprenticeship Board, Province of Alberta. Many of the instructors of both NAIT and SAIT have successfully completed the requirements for a baccalaureate with a specialization in vocational education teaching.

Seven instructors from NAIT and 3 instructors from SAIT expressed interest in the study. The total sample from this group was ten.

### School Support Staff

Many of the school boards in the province that offer a program in Food Preparation at the secondary school level employ at least one cook who is a certified journeyman to act as a chef. Normally this individual is not a certified vocational education teacher. The chef in his position is responsible for preparing a daily menu for the school cafeteria and overseeing the daily preparation of the noon meal and its being served. In some schools the chef also assumes some responsibility for the practical training of Food Preparation students.

Permission was secured from the appropriate school boards to involve school support staff in the study and nine chefs from Edmonton and five from Calgary made a total sample of fourteen.

Total Sample

The total sample for all groups was 216. Table 6 shows the selection from the six populations for this study.

TABLE 6

Total Sample for the Six Populations Selected for the Study

| Association | Population | Sample |
|---|---|---|
| CRA | 78 | 168 |
| HAC | 55 | |
| Chefs de Cuisine | 35 | |
| Teachers | 24 | 48 |
| Post-Secondary Food Instructors | 10 | |
| School Support Staff | 14 | |
| Total | 216 | 216 |

Pilot Study

Prior to selecting a sample from the above populations to participate in the proposed research, personal interviews were conducted with eight teachers of Food Preparation and six members of the school support staff (chefs) employed by the Edmonton Public School Board in the food service area. The researcher wanted to make these people aware of the problems that would be faced by the Food Preparation teachers and school support staff (chefs), and at the same time, create interest for the study that at that time was being proposed.

Through personal contact, the teachers and support staff were invited to make a number of statements about the future of the food service industry in Alberta and its probable effect on vocational education--especially Food Preparation programs in the Province's secondary high schools. Results of these interviews were very encouraging and led to the present study and the selection of a panel of experts from the six groups that represented the food/ hospitality industry in Alberta.

## Designing Delphi Statements

The actual study was divided into three parts. Part I and Part II were distributed to the first three groups of the population--CRA, HAC, and Chefs de Cuisine--recognized by the researcher as representatives of the food service industry in Alberta. Part III of the study was mailed to the teachers, the non-university post-secondary food instructors and the school support staff--the educators of Food Preparation courses in secondary schools and Commercial Cooking courses in non-university post-secondary schools in Alberta.

To secure additional Delphi statements as to the future of the food service/hospitality industry in this province, correspondence was initiated with each of the participants from the three samples that made up the group labeled "industry." Each participant was asked to make statements directed at how they perceived the present situation in the food/hospitality industry in Alberta, and how they perceived its development within the next three decades--the year 2000.

## Instrument Design - Part I - Industry

In the original correspondence with each participant the purpose of the research was given, the role of the participants presented and a deadline was established for the return of the participants' statements. A copy of the correspondence may be found in Appendix C.

To assist these people in formulating their statements about the future development of the food/hospitality industry in the province they were asked to respond to the following statements:

1. How will the technology influence food services in the next 20-30 years--(different equipment, more or better convenience foods, commissaries, etc.).
2. To what extent will the economy affect the food service industry in the future--(will there be more or less or as much money to be spent in eating places; will there be more or fewer eating places opening up and if so--of what type?).
3. Do you feel that the population in Alberta will increase, decrease or remain static and the number of customers vary proportionately?

4. Can you foresee changes in food preferences in customers of the future? (expansion of foreign cuisine).

5. Are there any other factors, in your opinion, that may affect your business positively or negatively in the next 20-30 years?

From the total mailing of 168, only fifteen responses were received. To increase the number of responses, a follow-up mailing was undertaken which included a covering letter and a copy of the research instrument. This procedure yielded an additional 37 responses. The total number of responses that were received was 52 or 30.95 per cent of the sample for CRA, HAC and Chefs de Cuisine groups. Data in Table 7 show this information.

The 52 participants from the industry group made a total of 230 statements to the five questions that were mailed to them. These statements were reviewed by the researcher and placed in the four classifications selected for the research: technology, economy, population and general factors.

Most of the statements that were received were generalizations and had to be rewritten by the researcher in a Delphi format. Examples of both of the original statements and the revised statements follow:

GENERAL category:

Original Statement:

"Government should check more the licensing of food outlets"

TABLE 7

Number Of Returns to Request for Statements

| Association | Sample | Letter 1st Return | Follow-up Letter | Total No. of Returns | % of Returns |
|---|---|---|---|---|---|
| 1. CRA | 78 | 6 | 13 | 19 | 24.3 |
| 2. HAC | 55 | 2 | 14 | 16 | 29.0 |
| 3. Chefs | 35 | 7 | 10 | 17 | 48.5 |
| TOTAL | 168 | 15 | 37 | 52 | 30.95 |

Revised Delphi statement:

"The hospitality industry in Alberta will be controlled more by the Provincial Government."

POPULATION Category:

Original statement:

"With more and more leisure time, there will be a problem to obtain people to work in restaurants."

Revised Delphi statement:

"Manpower shortage will be one of the major problems facing Alberta's Hospitality Industry."

ECONOMY Category:

Original statement:

"People are travelling more now than ever before. They are no longer satisfied with tents and campers and are demanding lodges, hotels and other similar facilities."

Revised Delphi statement:

"The construction of lodging places will experience an upward trend."

TECHNOLOGY Category:

Original statement:

"You will see localized commissaries servicing multi-unit operations."

Revised Delphi statement:

"Consumer-oriented kitchens in Alberta will make a greater use of commissaries."

In order to determine the future of the food/ hospitality industry in the Province, the Delphi statements were placed into the following two categories:

a) the level of agreement for each statement (strongly agree, agree, neutral, disagree and strongly disagree); and

b) the time the statements will probably occur (up to 1975, up to 1985, up to 2000, later than 2000).

A sample copy of the revised research instrument can be found in Appendix C.

## Instrument Design - Part II - Industry

In this portion of the study the same three groups from industry that participated in Part I of the study were involved. The revised Delphi statements were mailed to the 52 participants who submitted original statements.

Group 1 - 19 members of CRA who returned a complete instrument for Part I of the study;

Group 2 - 16 members of HAC who submitted a complete instrument for Part I of the investigation;

Group 3 - 17 members of Chefs de Cuisine that returned the instrument for Part I of the study.

Of the 52 research instruments that were mailed, 34 replies, or 65.38 per cent for Part II of the study were returned for analysis. In the section on Data Analysis in Chapter IV, the responses for each of these groups are indicated as a percentage in each cell for both the level of agreement for each statement and the time when that statement would probably occur.

Regarding the level of desirability, more than 51 per cent return in one cell for that particular Delphi statement was considered to have significance. These data are discussed in Chapter IV.

Regarding the probability of time when the Delphi statements would occur, a percentage of more than 21 was needed in two adjacent cells.

The 34 replies that were received were reviewed to determine if they were appropriate for Part III of the study. The analysis indicated that these Delphi statements could be used with educators in Part III of the research.

The categories of convergence of participants' opinion are described as follows:

| | |
|---|---|
| Extremely High Degree of Consensus | 70% + |
| Very High Degree of Consensus | 60 - 69% |
| High Degree of Consensus | 50 - 59% |
| Considerable Degree of Consensus | 40 - 49% |
| Some Degree of Consensus | 30 - 39% |
| Little Degree of Consensus | 20 - 29% |
| No Degree of Consensus | 10% |

## Instrument Design - Part III - Educators

This part of the study involved 48 individuals taken from the total population of Food Preparation teachers, non-university post-secondary food instructors, and school support staffs. Data in Table 8 show the number of people from each population that were selected to participate in this phase of the research.

All participants in Part III of the study received the identical instrument as the industry group did in Part II, except that the educators' instrument had an additional list of statements pertinent to education.

Of the 48 research instruments mailed, 28 instruments were returned. This represented a 58.54 per cent return for the educators' group.

TABLE 8

Participants in Part III of the Study - Educators

| Association | Population Sample |
|---|---|
| 4. Food Preparation teachers | 24 |
| 5. Post-secondary food instructors | 10 |
| 6. School support staff | 14 |
| Total | 48 |

Both levels of agreement and "time" for the educators' group were analyzed and compared with level of agreement and "time" for the industry group. These comparative data can be found in Chapter IV.

## Summary

In this chapter, the six populations and the selection of the research samples from these populations were described.

A pilot study was conducted to determine the appropriateness of the research instrument.

The research instrument was presented to a selected sample of participants from six populations involved in the study. These groups were stratified into an "industry" group and into an "educators" group. Each sample that made up a group received a copy of the research instrument which was administered in the following pattern:  Industry Part I and II, Educators Part III.

In the next chapter the opinions expressed by all participants will be given in a descending order for level of agreement and the desirability of time when each Delphi statement is to occur.

# CHAPTER IV

# ANALYSIS OF THE DATA

## Introduction

This chapter contains the responses of each research group regarding the level of desirability of each Delphi statement and its probable time of occurence.

The chapter is organized in the following manner: each group will be identified with the level of desirability for each statement given and the probable time of occurrence that the identified group anticipates that statement to take place. These will be presented in a descending order of consensus and in the category that each statement was placed on the research instrument. These categories were: general, population, economy and technology. A cut-off point of 19 per cent for any category was established for the study. All percentages below 19 per cent of consensus were eliminated for the data analysis of the research.

For the purpose of data analysis the six population samples included in the study were organized into two major groupings--industry and education. The industry group included members of the Canadian Restaurant Association (Alberta Region), members of the Hotel Association of Canada (Alberta) and members of the Canadian Federation of Chefs de

Cuisine (Edmonton Chapter).

The education group was made up of the following three groups: Food Preparation teachers, non-university post-secondary food instructors and school support staff.

The purpose in grouping these populations into two major groups was because of the commonality of the functions that they perform in the food/hospitality industry.

To determine the future direction of the food/hospitality industry in Alberta statements were obtained by personal interview with eight teachers of Food Preparation and six members of the school support staff employed by the Edmonton Public School Board. The statements generated from these interviews were restated into Delphi form and used in the research instruments. For the purpose of the investigation these Delphi statements were placed into the two following major classifications:

a) level of desirability of each statement, and
b) the probable time when that statement would occur.

Data in Table 9 show the number of participants from each group that were involved in the study.

## Consensus--Industry Group--Desirability

It will be recalled that the industry group was involved in Part I and Part II of the study. The statements below are those in which the participants indicated a consensus of higher that 19 per cent for each of the Delphi

## Table 9

Number of Participants from each Group Involved in the Study

| Group | Sample from Group | Participated Part I | Participated Part II | Participated Part III |
|---|---|---|---|---|
| Industry | | | | |
| CRA | 78 | 19 | 12 | |
| HAC | 55 | 16 | 10 | |
| Chefs de Cuisine | 35 | 17 | 12 | |
| Education | | | | |
| Teachers | 24 | | | 14 |
| Food Instructors | 10 | | | 6 |
| School Support Staff | 14 | | | 8 |

statement in four categories: general, population, economy, and technology.

These responses for the industry group are presented in a descending order of consensus. Each order of consensus, where applicable, has been sub-divided into desirability structure that was presented in the research instrument, i.e., "strongly agree," "agree," "neutral," "disagree," "strongly disagree."

## Extremely High Degree of Consensus (70%+)

There were no statements that were rated above 70 per cent by the industry group.

## Very High Degree of Consensus (60-69%)

Strongly Agree

general category

67% 2. Personal attention to customers will be the greatest asset of Alberta's hospitality industry.

Agree

technology category

64% 2. Consumer-oriented kitchens in Alberta will make a greater use of commissaries.

## High Degree of Consensus (50-59%)

Strongly Agree

general category

52% 1. Alberta's restaurants and other eating places will require fully trained and licensed (trade qualification) personnel.

population category

55% 2. There will be more tourists visiting the Province of Alberta.

52% 3. The customer of tomorrow will demand more and better personal service in hotels and restaurants in Alberta.

Agree

general category

52% 4. New training programs will be designed to allow for skill development in the shortest possible time.

population category

52% 5. Many eating and lodging places in Alberta will cater mainly to families with children.

economy category

58% 3. The construction of lodging places will experience an upward trend.

technology category

55% 3. Fast food service establishments will be popular in Alberta.

55% 5. Customer-oriented kitchens in Alberta will make greater use of convenience foods.

52% 1. Microwave and radar ovens will be in wide use in commercial kitchens in Alberta.

Considerable Degree of Consensus (40-49%)

Strongly Agree

general category

42% 3. The hospitality industry in Alberta will be suffering from a shortage of qualified staff to operate an increasing number of hotels, restaurants, and other facilities.

economy category

46% 4. More emphasis will be placed on employing competent managers and supervisors for the hotel and restaurant industry in Alberta.

Agree

general category

42% 3. The hopitality industry in Alberta will be suffering from a shortage of qualified staff to operate an increasing number of hotels, restaurants, and other facilities.

population category

40% 2. There will be more tourists visiting the Province of Alberta.

economy category

49% 2. Albertans will spend more money "eating out."

46% 5. With the expected increase in personal disposable income, demand for prepared food will significantly increase.

40% 4. More emphasis will be placed on employing competent managers and supervisors for the hotel and restaurant industry in Alberta.

technology category

43% 6. New trends in food and cooking equipment technology will affect skill requirements in food preparation.

Some Degree of Consenses (30-39%)

Strongly Agree

population category

31% 1. Manpower shortage will be one of the major problems facing Alberta's hospitality industry.

economy category

31% 1. National and provincial parks policies will be revised to attract more service industries to Alberta.

technology category

31% 1. Microwave and radar ovens will be in wide use in commercial kitchens in Alberta.

Agree

population category

34% 3. The customer of tomorrow will demand more and better personal service in hotels and restaurants in Alberta.

31% 1. Manpower shortage will be one of the major problems facing Alberta's hospitality industry.

31% 4. There will be a smaller number of young people entering the food and lodging industry in the future.

Disagree

general category

37% 5. The hospitality industry in Alberta will be controlled more by the Provincial Government.

Little Degree of Consensus (20-29%)

Strongly Agree

general category

22% 4. New training programs will be designed to allow for skill development in the shortest possible time.

population category

25% 4. There will be a smaller number of young people entering the food and lodging industry in the future.

economy category

25% 2. Albertans will spend more money "eating out."

22% 5. With the expected increase in personal disposable income, demand for prepared food will significantly increase.

technology category

28% 3. Fast-food-service establishments will be popular in Alberta.

28% 6. New trends in food and cooking equipment technology will affect skill requirements in food preparation.

22% 4. Soaring prices of natural foods will encourage a rapid development of synthetic foods.

Agree

general category

28% 1. Alberta's restaurants and other eating places will require fully trained and licensed (trade qualification) personnel.

28% 5. The hospitality industry in Alberta will be controlled more by the Provincial Government.

25% 2. Personal attention to customers will be the greatest asset of Alberta's hospitality industry.

economy category

28% 1. National and provincial parks policies will be revised to attract more service industries to Alberta.

technology category

28% 4. Soaring prices of natural foods will encourage a rapid development of synthetic foods.

Neutral

economy category

22% 5. With the expected increase in personal disposable income, demand for prepared food will significantly increase.

Disagree

economy category

22% 1. National and provincial parks policies will be revised to attract more service industries to Alberta.

technology category

25% 4. Soaring prices of natural foods will encourage a rapid development of synthetic foods.

## Consensus--Industry Group--Probable Date of Occurrence

Similar to the previous section on Desirability a cut-off point of 19 per cent was also established for the Time when each statement would occur.

The responses of the industry group are presented in descending order of consensus. Each order of consensus, where applicable, has been subdivided into a Time structure as presented in the research instrument, i.e., "up to 1975," "up to 1985," "up to 2000," "later than 2000."

### Extremely High Degree of Consensus (70%+)

Up to 1975

Up to 1985

Up to 2000

Later than 2000

There were no statements that were rated above 70% by the industry group.

Very High Degree of Consensus (60-69%)

Up to 1975

Up to 1985

Up to 2000

Later than 2000

There were no statements that were rated above 60% by the industry group.

High Degree of Consensus (50-59%)

Up to 1975

Up to 1985

Up to 2000

Later than 2000

There were no statements that were rated above 50% by the industry group.

Considerable Degree of Consensus (40-49%)

Up to 1975

Up to 1985

Up to 2000

Later than 2000

There were no statements that were rated above 40% by the industry group.

## Some Degree of Consensus (30-39%)

Up to 1985

general category

34% 3. The hospitality industry in Alberta will be suffering from a shortage of qualified staff to operate an increasing number of hotels, restaurants, and other facilities.

31% 4. New training programs will be designed to allow for skill development in the shortest possible time.

## Little Degree of Consensus (20-29%)

Up to 1975

general category

25% 1. Alberta's restaurants and other eating places will require fully trained and licensed (trade qualification) personnel.

22% 2. Personal attention to customers will be the greatest asset of Alberta's hospitality industry.

population category

25% 1. Manpower shortage will be one of the major problems facing Alberta's hospitality industry.

economy category

22% 1. Manpower shortage will be one of the major problems facing Alberta's hospitality industry.

Up to 1985

general category

28% 1. Alberta's restaurants and other eating places will require fully trained and licensed (trade qualification) personnel.

population category

25% 4. There will be a smaller number of young people entering the food and lodging industry in the future.

technology category

22% 1. Microwave and radar ovens will be in wide use in commercial kitchens in Alberta.

Up to 2000

economy category

21% 1. National and provincial parks policies will be revised to attract more service industries to Alberta.

## Consensus--Educator Group--Desirability

The responses of the educator group (teachers, non-university post-secondary food instructors, school support staff) are presented in descending order of consensus. Each order of consensus, where applicable, has been subdivided into Desirability structure as presented in the research instrument, i.e., "strongly agree," "agree," "neutral," "disagree," "strongly disagree."

The 19 per cent cut-off point also applies to the educator group.

## Extremely High Degree of Consensus (70%+)

Strongly Agree

general category

70% 1. Alberta's restaurants and other places will require fully trained and licensed (trade qualification) personnel.

population category

73% 3. The customer of tomorrow will demand more and better personal service in hotels and restaurants in Alberta.

### Very High Degree of Consensus (60-69%)

Strongly Agree

general category

61% 2. Personal attention to customers will be the greatest asset of Alberta's hospitality industry.

population category

65% 2. There will be more tourists visiting the Province of Alberta.

education category

65% 5. Better qualified personnel will result from closer cooperation between the school systems and the hospitality industry in Alberta.

61% 2. Educators will find it necessary to continue upgrading their knowledge and skills.

61% 3. The present Food Preparation program will be revised to conform with the changing needs of the hospitality industry.

### High Degree of Consensus (50-59%)

Strongly Agree

economy category

54% 5. With the expected increase in personal disposable income, demand for prepared food will significantly increase.

50% 4. More emphasis will be placed on employing competent managers and supervisors for the hotel and restaurant industry in Alberta.

Agree

general category

54% 4. New training programs will be designed to allow for skill development in the shortest possible time.

50% 3. The hospitality industry in Alberta will be suffering from a shortage of qualified staff to operate an increasing number of hotels, restaurants, and other facilities.

population category

54% 5. Many eating and lodging places in Alberta will cater mainly to families with children.

economy category

57% 1. National and provincial parks policies will be revised to attract more service industries to Alberta.

50% 4. More emphasis will be placed on employing competent managers and supervisors for the hotel and restaurant industry in Alberta.

technology category

54% 2. Consumer-oriented kitchens in Alberta will make a greater use of commissaries.

education category

57% 8. Present Food Preparation programs will continue to be viable.

54% 7. Food Preparation students will be educated to become more diversified in food services.

Disagree

education category

59% 4. Food service training will be offered only in post-secondary institutions.

Considerable Degree of Consensus (40-49%)

Strongly Agree

general category

46% 3. The hospitality industry in Alberta will be suffering from a shortage of qualified staff to operate an increasing number of hotels, restaurants, and other facilities.

economy category

46% 2. Albertans will spend more money "eating out."

technology category

46% 6. New trends in food and cooking equipment technology will affect skill requirements in food preparation.

Agree

population category

42% 1. Manpower shortage will be one of the major problems facing Alberta's hospitality industry.

economy category

46% 2. Albertans will spend more money "eating out."

technology category

40% 6. New trends in food and cooking equipment technology will affect skill requirements in food preparation.

education category

46% 1. Educational development and expansion in the area of food services will assist in alleviating the current short supply of qualified management personnel.

40% 6. Students will be educated in highly specialized areas of food services.

Some Degree of Consensus (30-39%)

Strongly Agree

population category

34% 1. Manpower shortage will be one of the major problems facing Alberta's hospitality industry.

economy category

34% 3. The construction of lodging places will experience an upward trend.

education category

34% 1. Educational development and expansion in the area of food services will assist in alleviating the current short supply of qualified personnel.

30% 7. Food Preparation students will be educated to become more diversified in food services.

Agree

general category

30% 1. Alberta's restaurants and other eating places will require fully trained and licensed (trade qualification) personnel.

population category

30% 2. There will be more tourists visiting the Province of Alberta.

economy category

30% 5. With the expected increase in personal disposable income, demand for prepared food will significantly increase.

technology category

34% 1. Microwave and radar ovens will be in wide use in commercial kitchens in Alberta.

education category

34% 2. Educators will find it necessary to continue upgrading their knowledge and skills.

30% 3. The present Food Preparation program will be revised to conform with the changing needs of the hospitality industry.

Neutral

general category

38% 5. The hospitality industry in Alberta will be controlled more by the provincial government.

technology category

30% 2. Consumer-oriented kitchens in Alberta will make a greater use of commissaries.

Disagree

population category

38% 4. There will be a smaller number of young people entering the food and lodging industry in the future

Little Degree of Consensus (20-29%)

Strongly Agree

general category

26% 4. New training programs will be designed to allow for skill development in the shortest possible time.

technology category

23% 1. Microwave and radar ovens will be in wide use in commercial kitchens in Alberta.

23% 4. Soaring prices of natural foods will encourage a rapid development of synthetic foods.

23% 5. Customer-oriented kitchens in Alberta will make greater use of convenience foods.

education category

23% 6. Students will be educated in highly specialized areas of food services.

Agree

general category

26% 2. Personal attention to customers will be the greatest asset of Alberta's hospitality industry.

26% 5. The hospitality industry in Alberta will be controlled more by the provincial government.

population category

26% 4. There will be a smaller number of young people entering the food and lodging industry in the future.

23% 3. The customer of tomorrow will demand more and better personal service in hotels and restaurants in Alberta.

technology category

26% 4. Soaring prices of natural foods will encourage a rapid development of synthetic foods.

education category

23% 4. Food service training will be offered only in post-secondary institutions.

23% 5. Better qualified personnel will result from closer cooperation between the school systems and the hospitality industry in Alberta.

Neutral

population category

23% 5. Many eating and lodging places in Alberta will cater mainly to families with children.

technology category

26% 4. Soaring prices of natural foods will encourage a rapid development of synthetic foods.

Disagree

general category

23% 5. The hospitality industry in Alberta will be controlled more by the provincial government.

technology category

23% 4. Soaring prices of natural foods will encourage a rapid development of synthetic foods.

## Consensus--Educator Group--Probable Date of Occurrence

The responses of the educator group (teachers, non-university post-secondary food instructors, school support staff) are presented in descending order of consensus. Each order of consensus, where applicable, has been subdivided into Time structure as presented in the research instrument, i.e. "up to 1975," "up to 1985," "up to 2000," "later than 2000."

### Extremely High Degree of Consensus (70%+)

Up to 1975

Up to 1985

Up to 2000

Later than 2000

There were no statements that were rated above 70% by the educator group.

Very High Degree of Consensus (60-69%)

Later than 2000

economy category

62% 5. With the expected increase in personal disposable income, demand for prepared food will significantly increase.

High Degree of Consensus (50-59%)

Up to 1985

economy category

52% 1. National and provincial parks policies will be revised to attract more service industries to Alberta.

technology category

51% 3. Fast-food-service establishments will be popular in Alberta.

Considerable Degree of Consensus (40-49%)

Up to 1975

population category

42% 1. Manpower shortage will be one of the major problems facing Alberta's hospitality industry.

Up to 1985

general category

45% 3. The hospitality industry in Alberta will be suffering from a shortage of qualified staff to operate an increasing number of hotels, restaurants, and other facilities.

40% 1. Alberta's restaurants and other eating places will require fully trained and licensed (trade qualification) personnel.

population category

40% 4. More emphasis will be placed on employing competent managers and supervisors for the hotel and restaurant industry in Alberta.

education category

42% 1. Educational development and expansion in the area of food services will assist in alleviating the current short supply of qualified management personnel.

Up to 2000

education category

48% 2. Educators will find it necessary to continue upgrading their knowledge and skills.

40% 1. Educational development and expansion in the area of food services will assist in alleviating the current short supply of qualified management personnel.

40% 3. The present Food Preparation program will be revised to conform with the changing needs of the industry.

## Some Degree of Consensus (30-39%)

Up to 1975

general category

30% 2. Personal attention to customers will be the greatest asset of Alberta's hospitality industry.

population category

37% 4. There will be a smaller number of young people entering the food and lodging industry in the future.

Up to 1985

general category

35% 4. New training programs will be designed to allow for skill development in the shortest possible time.

population category

38% 1. Manpower shortage will be one of the major problems facing Alberta's hospitality industry.

33% 2. There will be more tourists visiting the Province of Alberta.

technology category

32% 5. Customer-oriented kitchens in Alberta will make greater use of convenience foods.

education category

36% 3. The present Food Preparation program will be revised to conform with the changing needs of the hospitality industry.

Up to 2000

education category

36% 4. Food service training will be offered only in post-secondary institutions.

Little Degree of Consensus (20-29%)

Up to 1975

general category

20% 1. Alberta's restaurants and other eating places will require fully trained and licensed (trade qualification) personnel.

population category

20% 2. There will be more tourists visiting the Province of Alberta.

economy category

20% 4. More emphasis will be placed on employing competent managers and supervisors for the hotel and restaurant industry in Alberta.

education category

21% 3. The present Food Preparation program will be revised to conform with the changing needs of the hospitality industry.

Up to 1985

population category

27% 3. The customer of tomorrow will demand more and better personal service in hotels and restaurants in Alberta.

economy category

26% 2. Albertans will spend more money "eating out."

26% 4. More emphasis will be placed on employing competent managers and supervisors for the hotel and restaurant industry in Alberta.

technology category

20% 1. Microwave and radar ovens will be in wide use in commercial kitchens in Alberta.

education category

26% 7. Food Preparation students will be educated to become more diversified in food services.

22% 8. Present Food Preparation programs will continue to be viable.

Up to 2000

general category

20% 3. The hospitality industry in Alberta will be suffering from a shortage of qualified staff to operate an increasing number of hotels, restaurants, and other facilities.

economy category

27% 4. More emphasis will be placed on employing competent managers and supervisors for the hotel and restaurant industry in Alberta.

technology category

20% 1. Microwave and radar ovens will be in wide use in commercial kitchens in Alberta.

education category

24% 6. Students will be educated in highly specialized areas of food services.

24% 8. Present Food Preparation programs will continue to be viable.

Later than 2000

general category

20% 1. Alberta's restaurants and other eating places will require fully trained and licensed (trade qualification) personnel.

## Consensus for Both the Industry Group and the Educator Group--Desirability

In this section the consensus for both the industry group and the educator group is presented in descending order. Each order of consensus, where applicable, has been subdivided into desirability structure as presented in the research instrument, i.e. "strongly agree," "agree." "neutral," "disagree," "strongly disagree."

The order of consensus is for statements in the following categories: general, population, economy, and technology. Statements for the education category are not identified in the combined consensus because these statements were not included in the research instrument with which the industry group was involved.

Extremely High Degree of Consensus (70%+)

Strongly Agree

general category

1. Alberta's restaurants and other eating places will require fully trained and licensed (trade qualification) personnel.

2. Personal attention to customers will be the greatest asset of Alberta's hospitality industry.

3. The hospitality industry in Alberta will be suffering from a shortage of qualified staff to operate an increasing number of hotels, restaurants, and other facilities.

population category

2. There will be more tourists visiting the Province of Alberta.

3. The customer of tomorrow will demand more and better personal service in hotels and restaurants in Alberta.

economy category

2. Albertans will spend more money "eating out."

4. More emphasis will be placed on employing competent managers and supervisors for the hotel and restaurant industry in Alberta.

5. With the expected increase in personal disposable income, demand for prepared food will significantly increase.

technology category

6. New trends in food and cooking equipment technology will affect skill requirements in food preparation.

Agree

general category

3. The hospitality industry in Alberta will be suffering from a shortage of qualified staff to operate an increasing number of hotels, restaurants, and other facilities.

4. New training programs will be designed to allow for skill development in the shortest possible time.

population category

1. Manpower shortage will be one of the major problems facing Alberta's hospitality industry.

2. There will be more tourists visiting the Province of Alberta.

5. Many eating and lodging places in Alberta will cater mainly to families with children.

economy category

1. National and provincial parks policies will be revised to attract more service industries to Alberta.

2. Albertans will spend more money "eating out."

3. The construction of lodging places will experience an upward trend.

4. More emphasis will be placed on employing competent managers and supervisors for the hotel and restaurant industry in Alberta.

5. With the expected increase in personal disposable income, demand for prepared food will significantly increase.

technology category

1. Microwave and radar ovens will be in wide use in commercial kitchens in Alberta.

2. Consumer-oriented kitchens in Alberta will make a greater use of commissaries.

Very High Degree of Consensus (60-69%)

Strongly Agree

population category

1. Manpower shortage will be one of the major problems facing Alberta's hospitality industry.

Disagree

general category

5. The hospitality industry in Alberta will be controlled more by the Provincial Government.

High Degree of Consensus (50-59%)

Strongly Agree

technology category

1. Microwave and radar ovens will be in wide use in commercial kitchens in Alberta.

Agree

general category

1. Alberta's restaurants and other eating places will require fully trained and licensed (trade qualification) personnel.

2. Personal attention to customers will be the greatest asset of Alberta's personnel.

5. The hospitality industry in Alberta will be controlled more by the Provincial Government.

population category

3. The customer of tomorrow will demand more and better personal service in hotels and restaurants in Alberta.

4. There will be a smaller number of young people entering the food and lodging industry in the future.

technology category

4. Soaring prices of natural foods will encourage a rapid development of synthetic foods.

Neutral

general category

5. The hospitality industry in Alberta will be controlled more by the provincial government.

Disagree

population category

4. There will be a smaller number of young people entering the food and lodging industry in the future.

Considerable Degree of Consensus (40-49%)

Strongly Agree

general category

4. New training programs will be designed to allow for skill development in the shortest possible time.

economy category

1. National and provincial parks policies will be revised to attract more service industries of Alberta.

3. The construction of lodging places will experience an upward trend.

technology category

3. Fast-food-service establishments will be popular in Alberta.

4. Soaring prices of natural foods will encourage a rapid development of synthetic foods.

5. Customer-oriented kitchens in Alberta will make greater use of convenience foods.

Neutral

technology category

2. Consumer-oriented kitchens in Alberta will make a greater use of commissaries.

4. Soaring prices of natural foods will encourage a rapid development of synthetic foods.

Disagree

technology category

4. Soaring prices of natural foods will encourage a rapid development of synthetic foods.

Some Degree of Consensus (30-39%)

Strongly Agree

population category

4. There will be a smaller number of young people entering the food and lodging industry in the future.

Neutral

population category

5. Many eating and lodging places in Alberta will cater mainly to families with children.

economy category

1. National and provincial parks policies will be revised to attract more service industries to Alberta.

5. With the expected increase in personal disposable income, demand for prepared food will significantly increase.

Disagree

economy category

1. National and provincial parks policies will be revised to attract more service industries to Alberta.

Little Degree of Consensus (20-29%)

Neutral

general category

4. New training programs will be designed to allow for skill development in the shortest possible time.

Disagree

technology category

6. New trends in food and cooking equipment technology will affect skill requirements in food preparation.

## Combined Consensus for Both the Industry Group and the Educator Group--Probable Date of Occurrence

The consensus of both groups, industry and educators, is combined and presented in descending order of consensus. Each category, where applicable, has been subdivided into Time structure as presented in the research instrument, i.e., "up to 1975," "up to 1985," "up to 2000," "later than 2000."

The combined consensus is for the following categories of statements: general, population, economy, and technology.

Statements in the education category are not included in the combined consensus for the probable date of occurrence because the research instrument for the industry group did not include the education statements.

Extremely High Degree of Consensus (70%+)

Up to 1985

general category

3. The hospitality industry in Alberta will be suffering from a shortage of qualified staff to operate an increasing number of hotels, restaurants, and other facilities.

Very High Degree of Consensus (60-69%)

Up to 1975

population category

1. Manpower shortage will be one of the major problems facing Alberta's hospitality industry.

Up to 1985

general category

1. Alberta's restaurants and other eating places will require fully trained and licensed (trade qualification) personnel.

4. New training programs will be designed to allow for skill development in the shortest possible time.

population category

4. There will be a smaller number of young people entering the food and lodging industry in the future.

technology category

3. Fast-food-service establishments will be popular in Alberta.

High Degree of Consensus (50-59%)

Up to 1975

general category

2. Personal attention to customers will be the greatest asset of Alberta's hospitality industry.

Up to 1985

population category

1. Manpower shortage will be one of the major problems facing Alberta's hospitality industry.

technology category

4. Soaring prices of natural foods will encourage a rapid development of synthetic foods.

Considerable Degree of Consensus (40-49%)

Up to 1975

general category

1. Alberta's restaurant and other eating places will require fully trained and licensed (trade qualification) personnel.

Up to 1985

population category

2. There will be more tourists visiting the Province of Alberta.

3. The customer of tomorrow will demand more and better personal service in hotels and restaurants in Alberta.

technology category

1. Microwave and radar ovens will be in wide use in commercial kitchens in Alberta.

Up to 2000

economy category

4. More emphasis will be placed on employing competent managers and supervisors for the hotel and restaurant industry in Alberta.

Some Degree of Consensus (30-39%)

Up to 1975

economy category

2. Albertans will spend more money "eating out."

3. The construction of lodging places will experience an upward trend.

4. More emphasis will be placed on employing competent managers and supervisors for the hotel and restaurant industry in Alberta.

technology category

2. Consumer-oriented kitchens in Alberta will make a greater use of commissaries.

Up to 1985

economy category

2. Albertans will spend more money "eating out."

4. More emphasis will be placed on employing competent managers and supervisors for the hotel and restaurant industry in Alberta.

technology category

6. New trends in food and cooking equipment technology will affect skill requirements in food preparation.

Up to 2000

general category

4. New training programs will be designed to allow for skill development in the shortest possible time.

Little Degree of Consensus (20-29%)

Up to 1975

population category

2. There will be more tourists visiting the Province of Alberta.

5. Many eating and lodging places in Alberta will cater mainly to families with children.

Up to 1985

general category

2. Personal attention to customers will be the greatest asset of Alberta's hospitality industry.

5. The hospitality industry in Alberta will be controlled more by the Provincial Government.

population category

5. Many eating and lodging places in Alberta will cater mainly to families with children.

economy category

2. Albertans will spend more money "eating out."

5. With the expected increase in personal disposable income, demand for prepared food will significantly increase.

technology category

4. Soaring prices of natural foods will encourage a rapid development of synthetic foods.

Up to 2000

general category

5. The hospitality industry in Alberta will be controlled more by the provincial government.

population category

5. With the expected increase in personal disposable income, demand for prepared food will significantly increase.

economy category

3. The construction of lodging places will experience an upward trend.

technology category

4. Soaring prices of natural foods will encourage a rapid development of synthetic foods.

6. New trends in food and cooking equipment technology will affect skill requirements in food preparation.

Later than 200

general category

1. Alberta's restaurants and other eating places will require fully trained and licensed (trade qualification) personnel.

2. Personal attention to customers will be the greatest asset of Alberta's hospitality industry.

The figures on the pages that follow are presented for the benefit of the reader who may wish to compare the consensus for each Delphi statement in each of the four categories.

Briefly described, each figure includes both the level of desirability and the probable time when that statement will occur.

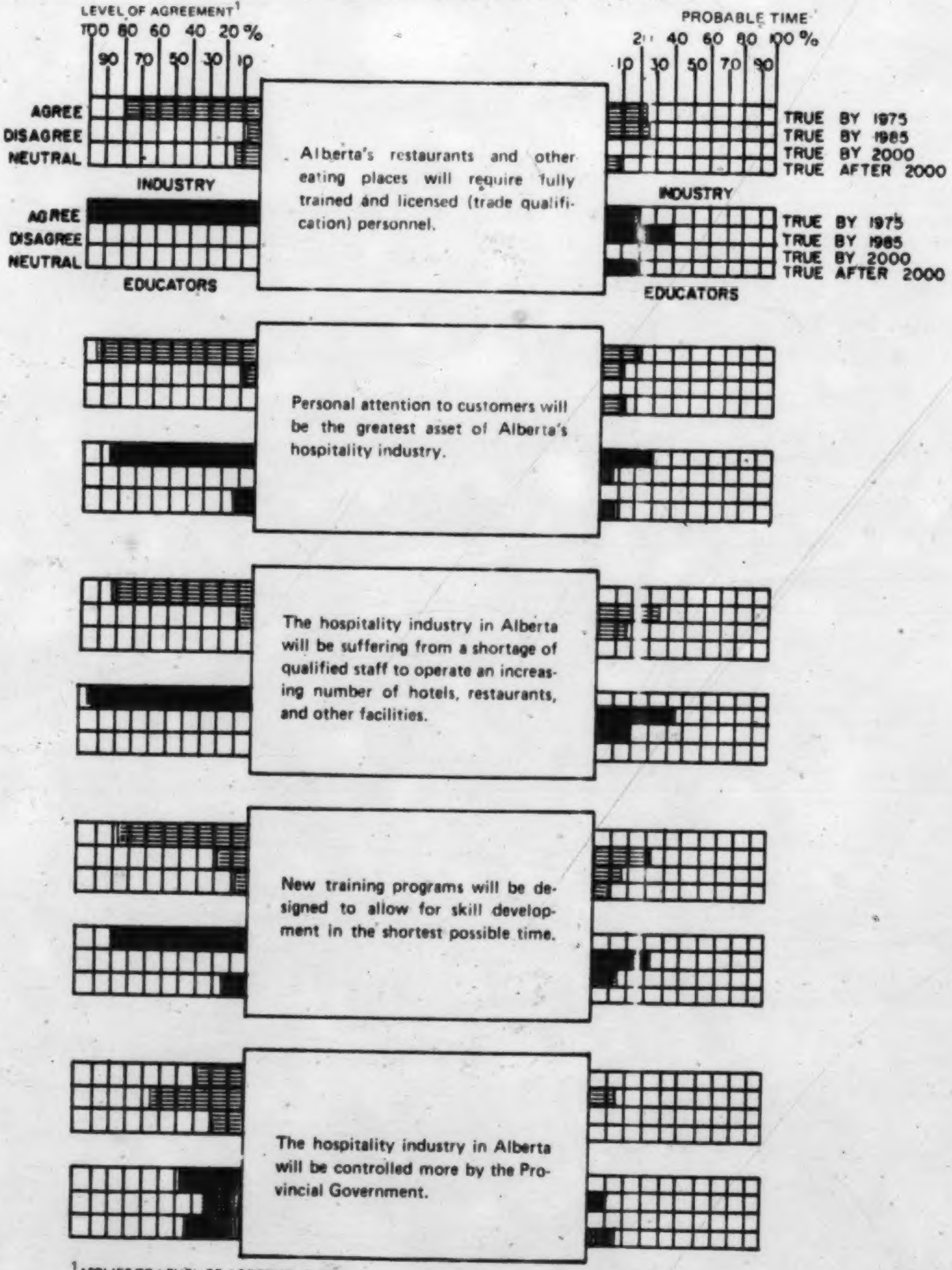
Although there were five levels of desirability, "strongly agree," "agree," "neutral," "disagree" and "strongly disagree" used on the research instrument only three of these levels are presented in each of the figure. These levels are "agree," "disagree" and "neutral." In all instances these appear on the left hand side of the figure.

In the center of the figure appears the Delphi statement for each category taken from the research instrument.

The right hand column of the figure shows the probable time when that statement will occur. Many participants of the study did not indicate in the research instrument the probable time of occurrence. For this reason the percentage in this column will not total 100 per cent.

In interpreting these figures the reader should keep in mind that some of the percentages used in the figure are below the 19 per cent cut-off point. These percentages are included for illustration purposes only.

FIGURE 2
STATEMENTS IN GENERAL CATEGORY
FOR BOTH INDUSTRY AND EDUCATOR GROUPS



Alberta's restaurants and other eating places will require fully trained and licensed (trade qualification) personnel.

Personal attention to customers will be the greatest asset of Alberta's hospitality industry.

The hospitality industry in Alberta will be suffering from a shortage of qualified staff to operate an increasing number of hotels, restaurants, and other facilities.

New training programs will be designed to allow for skill development in the shortest possible time.

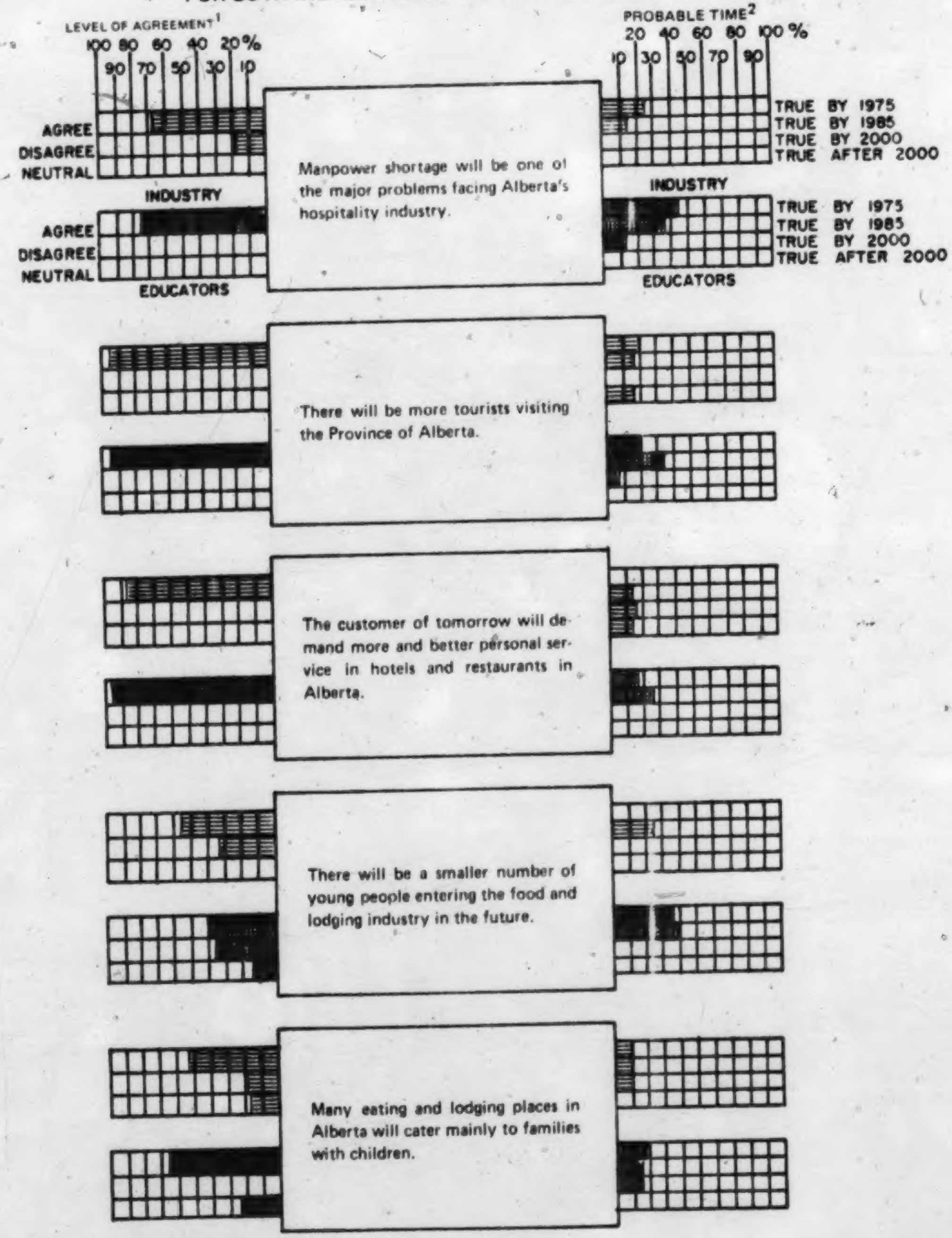
The hospitality industry in Alberta will be controlled more by the Provincial Government.

[1] APPLIES TO LEVEL OF AGREEMENT

[2] APPLIES TO PROBABLE TIME.

FIGURE 3
STATEMENTS IN POPULATION CATEGORY

FOR BOTH INDUSTRY AND EDUCATOR GROUPS



Manpower shortage will be one of the major problems facing Alberta's hospitality industry.

There will be more tourists visiting the Province of Alberta.

The customer of tomorrow will demand more and better personal service in hotels and restaurants in Alberta.

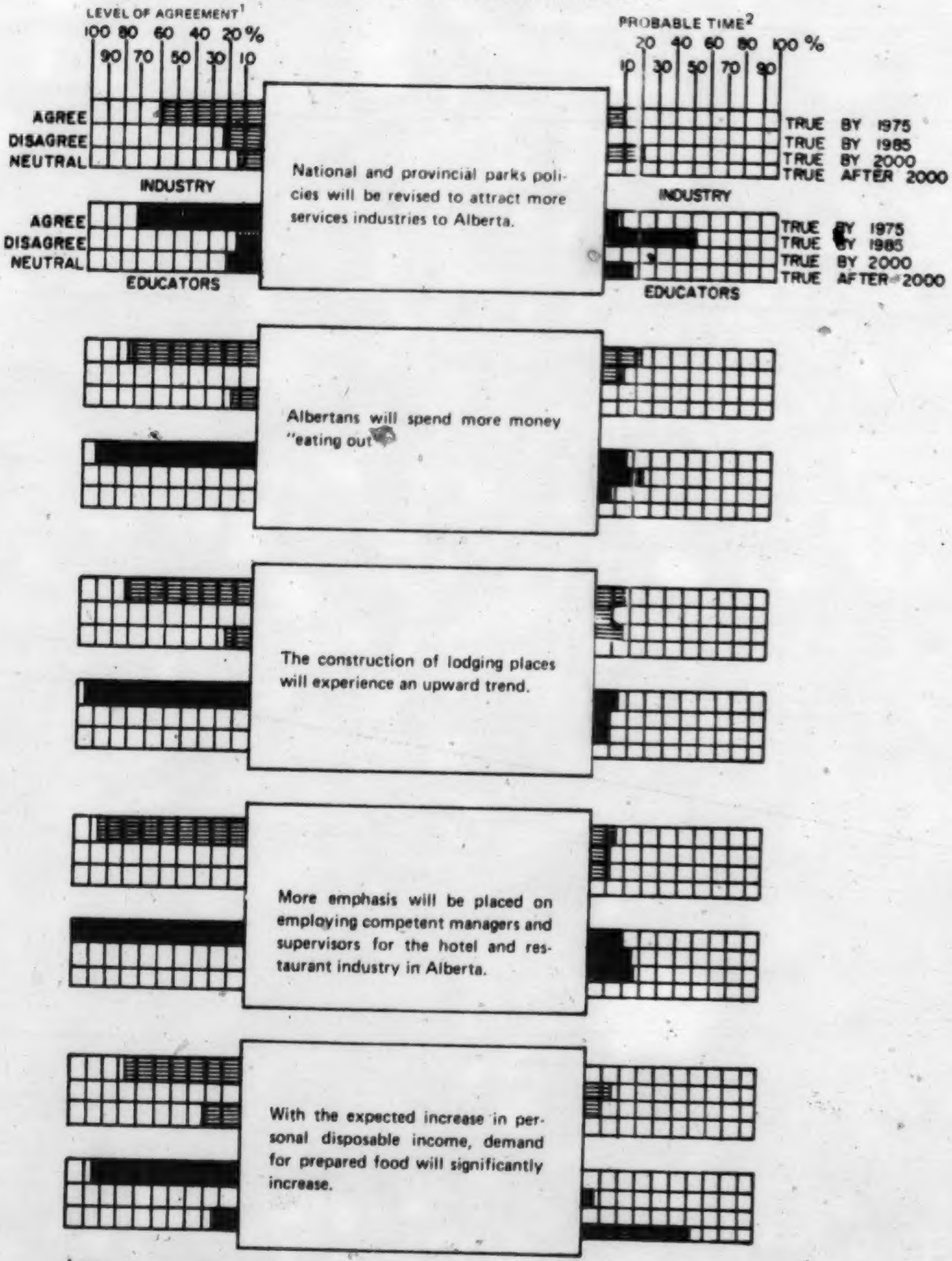
There will be a smaller number of young people entering the food and lodging industry in the future.

Many eating and lodging places in Alberta will cater mainly to families with children.

[1] APPLIES TO LEVEL OF AGREEMENT

[2] APPLIES TO PROBABLE TIME

FIGURE 4
STATEMENTS IN ECONOMY CATEGORY
FOR BOTH INDUSTRY AND EDUCATOR GROUPS



National and provincial parks policies will be revised to attract more services industries to Alberta.

Albertans will spend more money "eating out"

The construction of lodging places will experience an upward trend.

More emphasis will be placed on employing competent managers and supervisors for the hotel and restaurant industry in Alberta.

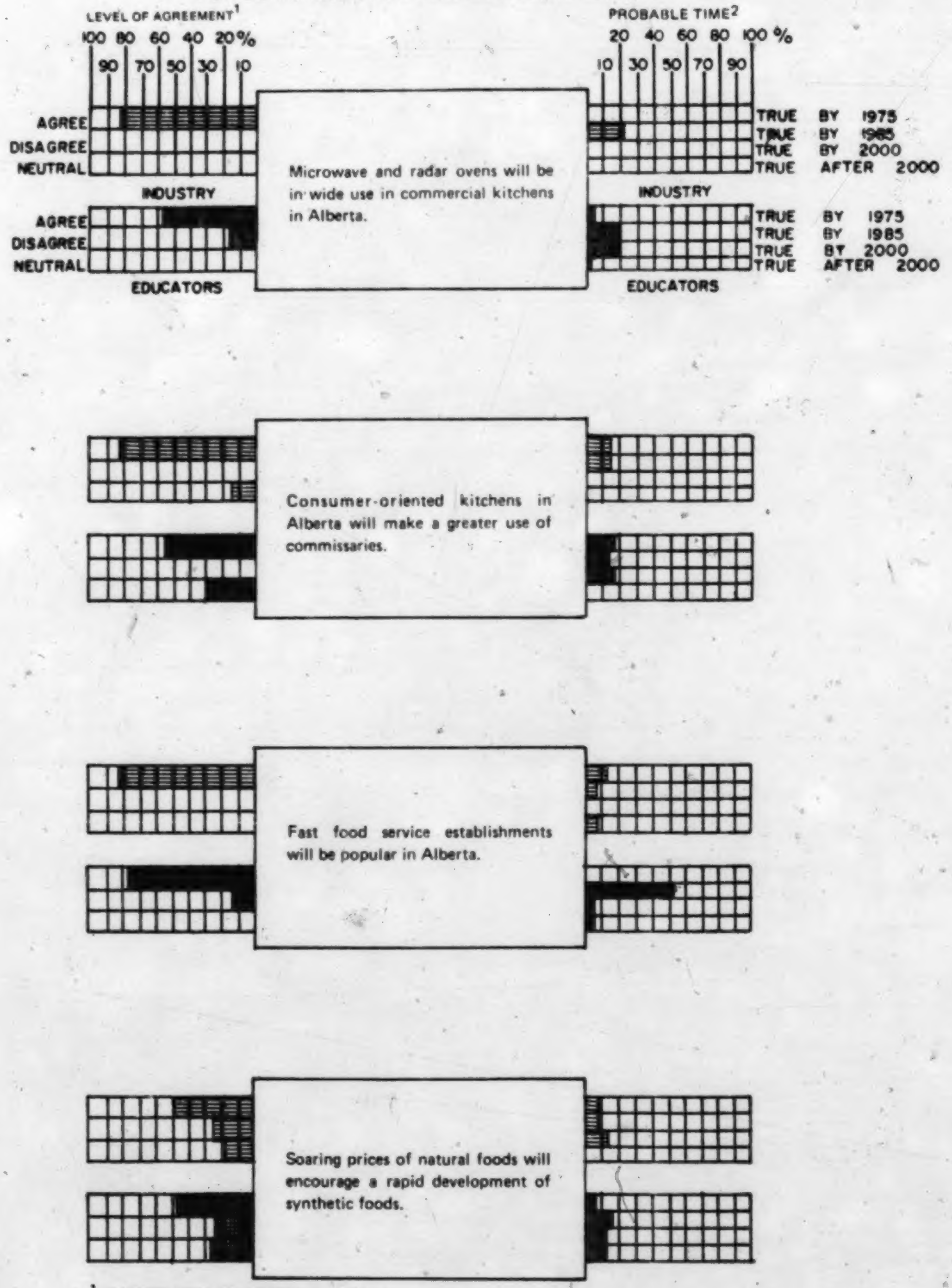
With the expected increase in personal disposable income, demand for prepared food will significantly increase.

[1] APPLIES TO LEVEL OF AGREEMENT

[2] APPLIES TO PROBABLE TIME

FIGURE 5
STATEMENTS IN TECHNOLOGY CATEGORY

FOR BOTH INDUSTRY AND EDUCATOR GROUPS

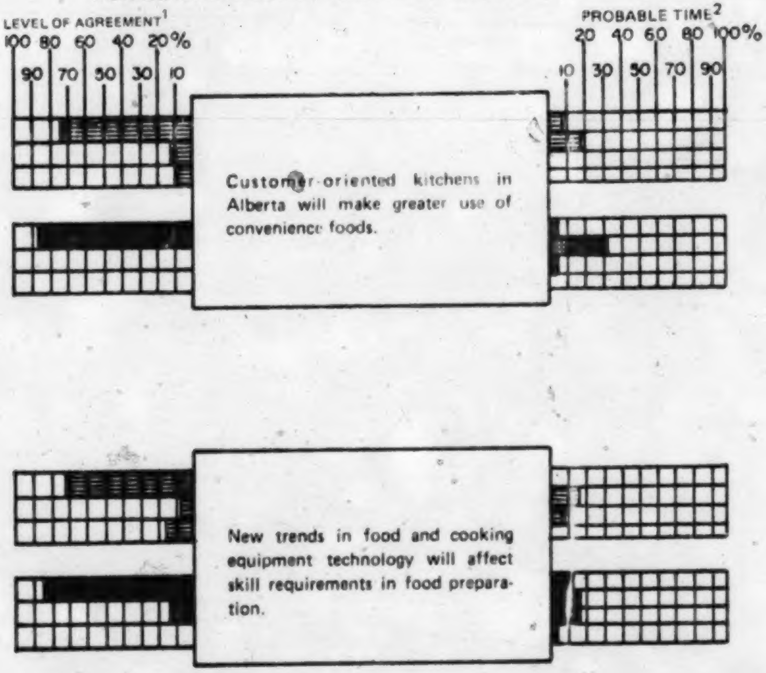


[1] APPLIES TO LEVEL OF AGREEMENT

[2] APPLIES TO PROBABLE TIME.

FIGURE 5
STATEMENTS IN TECHNOLOGY CATEGORY

FOR BOTH INDUSTRY AND EDUCATOR GROUP. . . cont.



Customer-oriented kitchens in Alberta will make greater use of convenience foods.

New trends in food and cooking equipment technology will affect skill requirements in food preparation.

[1] APPLIES TO LEVEL OF AGREEMENT

[2] APPLIES TO PROBABLE TIME.

## Summary

Participants involved in the study were organized into two groups--industry and educators. Both groups responded to the Delphi statements on the research instrument which were placed into two major categories:

a. level of desirability of each statement; and

b. the probable time when that statement should occur.

A cut-off point of 19 per cent for any level of the study was established and all percentages below 19 per cent were eliminated from the data analysis phase of the study.

An analysis of the responses for each group was presented in descending order of consensus. Each order of consensus, where applicable, was subdivided into the Desirability structure and the Time structure.

Combined consensus for both the industry group and the educator group was also presented for both Desirability and Time.

# CHAPTER V

## SUMMARY OF THE RESEARCH, SCENARIOS AND RECOMMENDATIONS

### Summary

To determine the manpower requirements in the food service industry that may have implications for vocational education teachers of Food Preparation in Alberta, 230 statements relative to this industry were assembled. These statements were collected from individuals associated with the food/hospitality industry in this province. These statements were reviewed by the researcher for overlap and commonality. Where overlap occurred the statement was eliminated from the study. Statements that were retained were rephrased into a Delphi form. For the final design of the research instrument these Delphi statements were placed into the following categories: general, population, economy, technology and education. Included in the general category were five Delphi statements. There were five statements in the population category; five statements in the economy category; six statements in the technology category and eight statements in the education category.

From six discrete populations involved in the study, the following samples were taken.

| Population | Sample | |
|---|---|---|
| CRA (262) | 78 ) | |
| HAC (412) | 55 ) | 168 |
| Chefs de Cuisine (42) | 35 ) | |
| Teachers (24) | 24 ) | |
| Food instructors (10) | 10 ) | 48 |
| School support staff (14) | 14 ) | |

Participants from each sample were placed into one of two groups--industry or education. Individuals from the CRA, HAC and Chefs de Cuisine were placed in the industry group while teachers, food instructors and school support staff (journeymen cooks) were placed in the education group.

A copy of the research instrument was mailed to each participant from the industry group selected to be involved in the research. Of the 168 participants from the industry group, 52 research instruments were returned for analysis. This represented a 30.95 per cent return for the industry group for Part I of the study.

In Part II of the study, 52 revised instruments were mailed to the respondents from the industry group with a return of 65.38 per cent.

In Part III there were 48 research instruments posted to the participants of the education group. Of the 48 instruments mailed, 28 were returned--representing a return of 58.54 per cent for the educator group.

A cut-off point of 19 per cent was established for both level of desirability and probable time of occurrence for each statement in the research instrument. Statements above the cut-off point were included in the data analysis of the study as a basis for developing scenarios for the study.

## Scenarios

The content for each of the scenarios that follow is made up from the Delphi statements that were included as an integral part of the research instrument. For the benefit of the reader, at the end of each paragraph are included the numbers of the statements in the categories that were used in forecasting the content of the paragraph. The following abbreviations are used in these scenarios to identify the various categories:

G - general
P - population
E - economy
T - technology
e - education

### 1975-1985

The results of the study indicate that between the years 1975-1985 there will be an increase in tourism in the Province of Alberta. In this ten-year period there will be a need for trained managers and supervisors in the food/hospitality industry who will be concerned with the influx of tourists. To accommodate these tourists, there will be a need for additional space, both lodging and eating, to be constructed throughout the tourist areas of the province. Both the industry group and the educator group agreed by consensus that between 1975-1985 there will be a manpower shortage in the food/hospitality industry in the province (P 1+2, E 3+4).

1985 - 2000

Starting in 1985 (or earlier) both groups agree that there will be an expansion in the fast food services. To meet the needs of these and other food service establishments, greater use will be made of commissaries that will supply pre-prepared foods to the food service industry in Alberta (T 2+3).

Manpower needs in the food/hospitality industry will reach a critical stage by 1985. At that time there will be a high demand for journeymen cooks because of attrition. Because of this shortage of skilled manpower, the time required to secure tradesmen qualifications should be reduced (G 1, 3+4).

There will be a high income for Albertans employed in the various sectors of the economy. This, combined with the shorter working week, will mean that more people will be "eating out." This situation will result in a higher demand for convenience foods (E 2, T 5).

By the year 1985 the family with children will be catered to by the food/hospitality industry in Alberta because of the economic conditions and the change in eating patterns that will prevail at that time (P 5).

## 2000 and Later

At the turn of the 21st century, there will be a rapid development of synthetic foods. During the same time there will be an increased use of microwave ovens, both commercially and in the home kitchens of the average Albertan (T 1+4).

The provincial government will exercise a greater control over the food/hospitality industry after the year 2000 through more rigid licensing procedures, sanitation regulations and standardization in food production (G 5).

The provincial government, because of the increase of tourists to provincial parks, will request that members of the food/hospitality industry establish more eating and lodging places within the boundaries of the provincial parks (E 1).

## Recommendations

The researcher wishes to make recommendations based on the review of the present data. Some recommendations are addressed to the groups that participated in the study. Other recommendations are directed at the various levels of the Government of Alberta that have responsibility for giving directions to education and preparation of food service workers.

The presented recommendations may form a basis for further studies that would supplement this research.

1. The industrial groups that represent the food/hospitality industry in Alberta should work in close cooperation with the appropriate level of the Government that is responsible for certification and preparation of food service personnel. The industrial representatives and the government authority concerned should establish and coordinate an active recruitment campaign to attract suitable personnel to the industry in order to alleviate the predicted manpower shortage.
2. New and different skills will be required of personnel of the food/hospitality industry. Because of this, it is recommended that the Apprenticeship Board, Department of Advanced Education and Manpower, consider revising the methods used to train personnel for the food service industry. It is also recommended to this board that the period of time required to obtain tradesmen's qualifications be reviewed to determine if this time frame may be reduced.
3. It is recommended to the Departments of Education and Advanced Education that these departments either conduct or fund research studies concerned with ongoing curriculum research and revision so that the instructional content may be congruent with the needs of the food/hospitality industry.
4. It is recommended that the administrators of

secondary schools and non-university post-secondary institutions that offer a program of studies in Food Preparation or in Commercial Cooking re-evaluate existing instructional facilities and equipment to determine if these educational aids are providing the students with realistic learning situations. This re-evaluation should be made to provide necessary directions to upgrade the learning environment.

5. It is recommended that because of the divergent changes predicted for the future of the food/hospitality industry in Alberta that Food Preparation teachers and Commercial Cooking instructors return to their respective trade area for a period of one year to upgrade and update both their knowledge and skill base.
6. It is recommended that wider use of advisory boards be adopted by both the educators and industry representatives so that these boards could serve as a communication link between any two groups.
7. It is recommended that this study be replicated with the personnel who work in the health care food service departments and in the correctional institutions in Alberta.

## Researcher's Observations

1. It was difficult and sometimes impossible to obtain the necessary data on manpower statistics from the Federal and Provincial levels of government. Statistics Canada does not have all of the census information available to the public until three to four years after that census was taken. Data on the food/hospitality industry used for current studies conducted by the different levels of the provincial government were often not for release.

2. The study might have been too broad in scope; more depth should have been conducted in the areas of manpower demand and in the vocational education manpower study.

3. The researcher had to change the wording of some statements on the research instrument because of the difference in terminology used by the participants.

4. The majority of assumptions stated in Chapter I were found valid at the conclusion of the study. However, the researcher believes that the Food Preparation program in the province's secondary schools is not realistic enough to prepare graduates of the program for specialized skill-oriented job opportunities in the food service industry today.

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# APPENDIX A

# SAMPLE COPIES OF LETTERS REQUESTING PERMISSION TO CONTACT THE PERSONNEL FOR THE STUDY

Dear Sir:

I am preparing a master's thesis on the future manpower needs in the food-hospitality industry in the Province of Alberta. I am a teacher of Food Preparation with the Edmonton Public School Board, journeyman cook, and a member of professional organizations representing the food and hospitality industry.

In order to secure the necessary expert opinion in this field, I would like to approach food preparation teachers and chefs employed by the school system and ask for their cooperation.

With your permission, I would like to obtain the names and addresses (school) of the instructors so that I can write each a personal letter outlining the scope of my research.

I give you my assurance that I will not violate any proprietary information or divulge the names of the individuals.

My thesis will be based on the Delphi forecasting method, therefore the research will not interfere with the classroom instruction time.

Yours sincerely,

Hana Cerny

Dear Sir:

I am preparing a master's thesis on the future manpower needs in the food/hospitality industry in the Province of Alberta. I am a teacher of Food Preparation with the Edmonton Public School Board, journeyman cook, and a member of professional organizations representing the food and hospitality industry.

In order to secure the necessary expert opinions in this field, I would like to approach all chefs working in this province and ask for their cooperation.

With your permission, I would like to obtain names and addresses (places of work) of the members of your association so that I can write each a personal letter outlining the scope of my research.

I give you my assurance that I will not violate any proprietary information or divulge the names of your members.

Yours sincerely,

Hana Cerny

# APPENDIX B

## SAMPLE COPIES OF INITIAL LETTER AND FOLLOW-UP LETTER MAILED TO PARTICIPANTS

## AND

## PART I OF THE DELPHI INSTRUMENT MAILED TO GROUP I - INDUSTRY

Dear Sir:

I am writing to you in the hope that you, as an expert, will participate in a study focussed on the future manpower needs in the food and hospitality industry and their implications for education in the Province of Alberta.

The indications of a possible expansion in the tourist industry seem to suggest a need for a review of our present educational practices and planning techniques for the future. I feel that this study is most timely and will be of value to the business community and educators alike. In order to conduct this study, I feel it is important to secure the opinion of an experienced person such as yourself.

I am asking for the cooperation of practicing chefs, journeyman cooks, and owners and/or operators of lodging and eating places in the Province of Alberta. I realize that participating in this study will take some of your time and thought, but it will be of twofold value: it will record your own past efforts in making the hospitality industry the success it is today, and it will also pave the way for meeting the needs of tomorrow.

Thank you for your attention and cooperation.

Yours sincerely,

Hana Cerny

Dear Sir:

May I draw your attention to my letter of November 24, 1971 requesting responses on a Hospitality industry questionnaire.

I am sure that your schedule has been very busy, but I feel that my proposed study is important to the future of the Hospitality industry in this Province, to the planning of vocational educational programs in our institutions, and certainly to future customers of all eating and lodging establishments.

Would you please answer the attached questionnaire and return by January 20, 1972 in the enclosed self-addressed envelope.

Yours sincerely,

Hana Cerny

PART I

PLEASE ANSWER AND RETURN BY JANUARY 20, 1972

Name... ........................

Address........................

........................

1. How will the technology influence the lodging industry in the next 20 to 30 years? (e.g. more or fewer hotels, hostels, motels, etc.)

2. To what extent will the economy affect the lodging industry in the future? (e.g. will there be more or less or as much money spent by customers in hotel/motel accommodation; will there be more or fewer tourists visiting the province, etc.)

3. Do you feel that the population in Alberta will increase, decrease or remain static and the number of customers vary proportionately?

4. Are there any other factors in your opinion, that may affect your business positively or negatively in the next 20 to 30 years?

# APPENDIX C

## SAMPLE OF LETTER MAILED TO GROUP I - INDUSTRY

## AND

## GROUP II - EDUCATORS

## ALSO

## PART II AND PART III OF THE REVISED DELPHI INSTRUMENT

## MAILED TO BOTH GROUPS

Dear Sir:

The enclosed questionnaire has been formulated from information received through the inquiries sent out on November 23, 1971 and January 5, 1972 respectively. The results received have been excellent and I wish to thank you and your organization for the time and effort you gave in order to make Part I of the study such a success.

In order to finalize my findings I would appreciate your reactions to the predictions on the enclosed questionnaire, by marking your responses in the spaces provided.

I have allotted three columns for the purpose of facilitating the answering procedures and to conveniently evaluate the reaction of all respondents.

Column I for agreement or disagreement.

Column II for indicating the period when changes can be expected.

Column III for subjective opinions where Column I or II appear inadequate.

I would appreciate receiving the completed questionnaire by April 10, 1972 if possible, and I am sure that your cooperation approach will be instrumental in meeting the needs of Alberta's hospitality industry.

Yours very truly,

Hana Cerny

PAGE I

COLUMN I - For agreement or disagreement
COLUMN II - For indicating the period when changes can be expected.

COLUMN III - For your own subjective opinions where column I and II appear inadequate.

**PLEASE RETURN BY March 5, 1973**

The following statements are related in a GENERAL way to the hospitality industry in Alberta

| | COLUMN I | | | | | COLUMN II | | | | COLUMN III |
|---|---|---|---|---|---|---|---|---|---|---|
| | strongly agree | agree | neutral | disagree | strongly disagree | up to 1975 | up to 1985 | up to 2000 | later than 2000 | YOUR PERSONAL COMMENTS. |
| 1. Alberta's restaurants and other eating places will require fully trained and licensed (trade qualification)personnel | | | | | | | | | | |
| 2. Personal attention to customers will be the greatest asset of Alberta's hospitality industry. | | | | | | | | | | |
| 3. The hospitality industry in Alberta will be suffering from a shortage of qualified staff to operate an increasing number of hotels, restaurants, and other facilities. | | | | | | | | | | |
| 4. New training programs will be designed to allow for skill development in the shortest possible time. | | | | | | | | | | |
| 5. The hospitality industry in Alberta will be controlled more by the Provincial Government. | | | | | | | | | | |

PLEASE RETURN BY MARCH 5, 1973

|  | COLUMN I |  |  |  |  | COLUMN II |  |  |  | COLUMN III |
|---|---|---|---|---|---|---|---|---|---|---|
| The following statements are related to POPULATION in the hospitality industry in Alberta: | strongly agree | agree | neutral | disagree | strongly disagree | up to 1975 | up to 1985 | up to 2000 | later than 2000 | YOUR PERSONAL COMMENTS |
| 1. Manpower shortage will be one of the major problems facing Alberta's hospitality industry. |  |  |  |  |  |  |  |  |  |  |
| 2. There will be more tourists visiting the Province of Alberta. |  |  |  |  |  |  |  |  |  |  |
| 3. The customer of tomorrow will demand more and better personal service in hotels and restaurants in Alberta. |  |  |  |  |  |  |  |  |  |  |
| 4. There will be a smaller number of young people entering the food and lodging industry in the future. |  |  |  |  |  |  |  |  |  |  |
| 5. Many eating and lodging places in Alberta will cater mainly to families with children. |  |  |  |  |  |  |  |  |  |  |

PLEASE RETURN BY MARCH 5, 1973

| The following statements are related to ECONOMY in the hospitality industry in Alberta: | COLUMN I | | | | | COLUMN II | | | | COLUMN III |
|---|---|---|---|---|---|---|---|---|---|---|
| | strongly agree | agree | neutral | disagree | strongly disagree | up to 1975 | up to 1985 | up to 2000 | later than 2000 | YOUR PERSONAL COMMENTS |
| 1. National and provincial parks policies will be revised to attract more service industries to Alberta. | | | | | | | | | | |
| 2. Albertans will spend more money "eating out". | | | | | | | | | | |
| 3. The construction of lodging places will experience an upward trend. | | | | | | | | | | |
| 4. More emphasis will be placed on employing competent managers and supervisors for the hotel and restaurant industry in Alberta. | | | | | | | | | | |
| 5. With the expected increase in personal disposable income, demand for prepared food will significantly increase. | | | | | | | | | | |

Please return by March 5, 1973

PART II.

PAGE 4.

The following statements are related to TECHNOLOGY in the hospitality industry in Alberta.

| | COLUMN I | | | | | COLUMN II | | | | COLUMN III |
|---|---|---|---|---|---|---|---|---|---|---|
| | strongly agree | agree | neutral | disagree | strongly disagree | up to 1975 | up to 1985 | up to 2000 | later than 2000 | YOUR PERSONAL COMMENTS. |
| 1. Microwave and radar ovens will be in wide use in commercial kitchens in Alberta. | | | | | | | | | | |
| 2. Consumer-oriented kitchens in Alberta will make a greater use of commissaries. | | | | | | | | | | |
| 3. Fast-food service establishments will be popular in Alta. | | | | | | | | | | |
| 4. Soaring prices of natural foods will encourage a rapid development of synthetic foods. | | | | | | | | | | |
| 5. Customer-oriented kitchens in Alberta will make greater use of convenience foods. | | | | | | | | | | |
| 6. New trends in food and cooking equipment technology will affect skill requirements in food preparation. | | | | | | | | | | |

PLEASE RETURN BY MARCH 5, 1973

| The following statements about EDUCATION are related to the hospitality industry in Alberta | COLUMN I | | | | | COLUMN II | | | | COLUMN III |
|---|---|---|---|---|---|---|---|---|---|---|
| | strongly agree | agree | neutral | disagree | strongly disagree | up to 1975 | up to 1987 | up to 2000 | later than 2000 | YOUR PERSONAL COMMENTS |
| 1. Educational development and expansion in the area of Food Services will assist in alleviating the current short supply of qualified management personnel. | | | | | | | | | | |
| 2. Educators will find it necessary to continue upgrading their knowledge and skills | | | | | | | | | | |
| 3. The present Food Preparation program will be revised to conform with the changing needs of the hospitality industry. | | | | | | | | | | |
| 4. Food service training will be offered only in post-secondary institutions. | | | | | | | | | | |
| 5. Better qualified personnel will result from closer cooperation between the school systems and the hospitality industry in Alberta. | | | | | | | | | | |
| 6. Students will be educated in highly specialized areas of food services. | | | | | | | | | | |
| 7. Food Preparation students will be educated to become more diversified in food services. | | | | | | | | | | |
| 8. Present Food Preparation programs will continue to be viable. | | | | | | | | | | |